

**INSTRUCTIONS TO EXAMINERS  
OF  
H.S.L.C. EXAMINATION**

**2018**

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# FOREWORD

The Board publishes a book on Instructions to Examiners of H.S.L.C. Examination for use by all concerned every year. This year also the book on the Instruction to Examiners which had been used in evaluating the answer scripts of the H.S.L.C. Examination, 2018 is brought out with the aim to ensure objective and reliable evaluation and do justice and transparency in the examination.

I hope those who are using this book, the students in particular are beneficial and helpful in the examinations and in their academic careers.

Imphal,  
the 6th Dec, 2018

**Akham Joykumar Singh**  
*Secretary*

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**2018**

**ENGLISH**

*Full Marks-80*

*Pass Marks - 20*

*Time: Three hours*

*The figures in the right hand margin indicate full marks for the questions.*

*Answer the questions in your own words as far as practicable.*

**SECTION-A**

**(READING)**

1. Read the following passage and answer the questions that follow:

As material civilization advances and supply of avoidable goods and services increases, man's need correspondingly multiply. Advertising plays a key role in this never-ending process by stimulating the public's desire for certain products, and thereby promoting the sales thereof, untill it has, in effect, created new needs, real or supposed, where there were none before. A familar example is the motor car - once a rare and costly novelty, now a very common and relatively inexpensive necessity.

**Contd.**

A product, service or commodity that the public needs and knows it needs tends, of course, to 'sell itself'. We might therefore assume that, in such cases advertising would be of minor importance. To some extent this is true. Meat-packers, vegetables and fruit growers and dairy operators spend less on advertising or instance, than manufacturers of cigarettes, liquors, cosmetics, and other items of this type. On the other hand, the competition that exists between rival brands means that the suppliers of such basic necessities as food, clothing, and housing must advertise their wares to stay in the business. Significantly, the industry that spends most on advertising turns out a product which almost everyone considers a necessity; soap.

(a) Complete the following statement :

- (i) Advertisement acts as a stimulus to \_\_\_\_\_ 1
- (ii) Manufactures dealing in luxury must spend more time on \_\_\_\_\_ 1

(b) Answer the following questions in *one* phrase/sentence each :

- (i) Why does human need to take upward tract ? 1
- (ii) Why are many items of luxuries changed to necessities ? 1
- (iii) Why is there a keen competition between the rival brands ? 1

- (c) Answer the following question in about 50 words:

Why is less advertisement needed for the sale of essential commodities ?

3

- (d) Find out the words from the passage that have the same meaning as :

1+1=2

(i) the quality of being new

(ii) products, article for sales

### **COURSE BOOK**

#### **(PROSE)**

2. Answer the following questions in one phrase/sentence each: 1x3=3

(a) What is the shape of Dzuko Valley?

(b) When did Government of India honour Mary Kom Padma Shri Award ?

(c) Why do people love to be around Sunita Williams ?

3. Answer the following questions in about 30 words each: 2x3=6

(a) How was Sagol kangjei used in the past apart from being a popular game?

- (b) Why had Ramanujan more attachment to his mother than his father ?
- (c) Why did Lakshmana Sastry summon the new teacher ?

4. Answer the following questions in about 50 words each : 3x2=6

- (a) Why is the North-East India said to be a hot-bed of rich flora and fauna ?
- (b) Why is tourism in Manipur become more important in view of India's Act East Policy ?

Or

Why is Moreh worth visiting ?

### SECTION-B

#### (WRITING)

5. Write an essay on any **one** of the following topics in about 200 words

(a) Fast Foods

[ Outlines : Introduction - a good answer to fast moving life - its outcome - conclusion ]

(b) Duties of Students

[ Outlines : Introduction - duties towards themselves - duties towards society - conclusion ]

(c) A little Learning is a Dangerous Thing

[ Outlines : Introduction (its meaning) - why dangerous - why is it better than no learning at all - conclusion ]

6. Sumitra of Kalinagar, Jiribam writes a letter to her brother, Sonny who is staying in the hostel of Gurucharand College, Assam advising him to study hard and avoid bad company. 5

Or

Write a letter to the Health Minister, Govt. of Manipur highlighting the problem that many patients die en-route before they can reach the hospitals. Give your suggestions and sign yourself as Naoboy of Chanchipur.

7. You have taken part in the inter-school debating competition Conducted by the Director of Education (s) on the topic 'School going children should be free from heavy school bag' and won the 1st prize. Write a report of this to be published in your School Magazine. You are Tomthin of Touthang High School. 4
8. Make notes of the important points of the following passage and write a summary using the notes: 3+3=6

The test of a great book is whether we want to read it only once or more than once, Any great book we want to read the second time, and every additional time that we read it, we find new meanings and new beauties in it. A book that a person of education and good taste does not care to read more than once. It is probably not worth much. But we cannot consider the judgement of a single individual always right. The opinion that makes a book great must be the opinion of many. We may doubt the judgement of the single critic at times. But there is no question of doubt in regard to the judgement of generations. Even if we cannot at once perceive anything good in a book which has been admired and praised for hundred of years, we may be sure that by trying, by studying it carefully, we shall at last be able to feel the reason of this admiration and praise.

9. You are James, the cultural secretary Zenith Public School, Sugnu. Write a notice suitable for your school notice board giving details for participation of students in a Cultural Programme to be organised by your school. 3

### SECTION-C

#### (GRAMMAR)

10. Rewrite the following sentences inserting appropriate determiners wherever necessary: 1+1 = 2

(a) eggs are rotten

(b) men are mortal

11. Fill in the blank with correct modal verb of the following: 1

If I had the money, I \_\_\_\_\_ buy those books.

12. Change the voice of the following sentences : 1+1 = 2

(a) Why did you sell your mobile phone ?

(b) All the books are being returned by Chaoton.

13. Change the narration of the following sentences: 1 + 1 = 2

(a) "I will meet you again", Radha laughed.

(b) He said, "Happy Birthday".

14. Rewrite the following sentence using the correct form of the verb within bracket : 1

He feels a hand (touch) his shoulder.



15. Transform the following sentences as directed :

1 + 1=2

(a) With all his wealth, he is not satisfied.

(Change into complex sentence without changing the meaning)

(b) Mumbai is one of the biggest cities in India.

(Change into superlative degree)

### SECTION - D

#### (LITERATURE)

16. Answer the following questions in about 30 words each:

2x2=4

(a) "Why do you dress me in borrowed robes?"

Why did Macbeth say so when Ross saluted him as Thane of Cawdor?

Or

"I can't find drinks for everyone who comes along"

Why does the peasant once very poor change his attitude towards a poor peasant now?

(b) Why does the Bishop feel the candlesticks very dear to him?

17. Answer any *three* of the following questions in about 30 words each :

2x3=6

(a) "Thou art more lovely and more temperate" Why did Shakespeare say that his friend is more lovely and temperate than the summer?

Or

'She shall be mine, and I will make  
A lady of my own'.  
Why did the mother nature say so ?

- (b) "I am the daughter of the elements with winter conceived"  
Explain the idea.

Or

'Theirs but to do and die  
Into the Valley of Death'  
Explain the idea.

- (c) Why does the frog want to kill the nightingale ?

Or

Why does not the poet know about sun-set in your Poem 'A Day' ?

18. Answer the following question in about 120 words: 5

Why did Raicharan come to Anukul and admit that he had stolen the little master ?

Or

Why did Mathilde repent after ten years of hard life that if she had not borrowed that necklace ?

19. Answer the following question in about 120 words : 5

Why was the Convict's heart filled with despair, hopelessness, bitterness and anger?

Or

Why was the Convict eager to reach Paris and asked the Bishop to bless him before leaving ?

## ENGLISH

## Scoring key / Outline Answer and Marking Scheme

Sl. No.	Text	Mark for each point	Total Marks
1	a) i) public's desire / public demand ii) advertisement	1 1	1 1
	b) i) Because of the advancement of material goods. ii) Because of constant advertisement iii) To boost up the sales of their wares	1 1 1	1 1 1
	c) Because essential commodities tends to sell itself- the public knows their own needs- so less advertisement is needed.	2+1	3
	d) i) Novelty ii) Wares; commodities; goods.	1 1	1 1
<b>• COURSE BOOK (PROSE)</b>			
2	a) Fork shaped b) In 2005 c) Because she is always positive and happy	1 1 1	1 1 1
3	a) It was used in various subtle approach for making friendship or for exterminating a foe. It was also used as a means in diplomacy, politics and palace intrigue b) Because Ramanujan's father was very busy at his work. So his mother solely looked after him - taught him how to sing religious songs — to go to temples and so on. c) He summoned the new young teacher for his unfair behavior in the classroom-to tell him not to spread the poison of social inequality and communal intolerance in the minds of children.	2  1+1  1+1	2  2  2
4	a) Because of the monsoon rain and sub-tropical climate the North East India is made a region conducive to the growth of varied breed of flora and fauna. Among these vast range of fauna two of them are world renowned -Sangai of Manipur and Rhinoceros of Assam. b) The implementation of the Trans-Asian Highways and the Railways will make Manipur the Gateway to South-East Asia. If appropriate infrastructure and services are suitably placed Manipur is destined to be a popular tourist hot spot in South-East Asia and its neighbours. <b>OR</b> Moreh, an international town is 110 kms. away from Imphal and 5 kms. away from Tamu, the border town of Myanmar. It is a busy trade centre and an important commercial hub. All kinds of Thai and Chinese consumer goods are available at cheap price from the two international towns.	2+1	3

**ENGLISH**  
**Scoring key / Outline Answer and Marking Scheme**

Sl. No.	Text	Mark for each point	Total Marks
5	ESSAY WRITING : Expression	7	7
6	LETTER WRITING : Format / expression	2+3	5
7	REPORT WRITING : Format / expression	2+2	4
8	Note : 1. i) Good book— one that people like to read time and again. ii) New meanings - new beauty. 2. i) Single man's opinion - doubtful ii) Judgement of generation - no doubt 3. At once we may not - but by trying again- could be understood.	1+2	3
	Such a book should be able to reveal some new idea everytime we go through it. It should have stood the test of time and generations and have approved it. A single critic, however eminent cannot be fully upon as a safe guide.	1+2	3
9	NOTICE WRITING : Format + Content	1+2	3
<b>SECTION – C (GRAMMAR)</b>			
10	a) These/those/All/Some/A few/The b) All men are mortal/Men are mortal	1 1	1 1
11	Could/would/might	1	1
12	a) Why was your mobile phone sold ? b) Chaotom is returning all the books.	1 1	1 1
13	a) Radha said laughingly that she would meet me/her/him again. b) He wished me/him/her happy birthday./or He wished happy birthday.	1 1	1 1
15	He feels a hand touching his shoulder.	1	1
15	a) Although he is wealthy, he is not satisfied. b) Mumbai is bigger than most of the cities.	1 1	1 1
<b>SECTION - D (LITERATURE)</b>			
16	a) Macbeth was surprised when he was addressed as Thane of Caudor by Ross because the Thane of Caudor was still alive. <b>OR</b> When he was poor the peasant was virtuous – now he is rich and becomes evil like the devil. b) Because they are the token of his mother's love for him. She had given them to him when she was on her death and asked him to keep them in remembrance of her. a) Because summer is rough and short. But the poet finds that his	2     2	2     2

**ENGLISH**  
**Scoring key / Outline Answer and Marking Scheme**

Sl. No.	Text	Mark for each point	Total Marks
17	<p>friend is more mild and lovely in temper and his beauty is eternal and will not fade away like the summer.</p> <p style="text-align: center;"><b>OR</b></p> <p>As a mother, nature wishes to rear Lucy to grow and educate her with the different objects in nature – let her play like a child in her mother's lap.</p> <p>b) Here the poet personifies the flower as the daughter of the four elements in which the nature moulds its existence as its seeds sown in winter and grow in spring.</p> <p style="text-align: center;"><b>OR</b></p> <p>The English soldiers were brave and well disciplined. Their duty was to obey their Commander. So they charged forward even though they knew that death was sure for them as they were not suitably equipped.</p> <p>c) The frog is the undisputed king of Bingle Bog. The nightingale comes to this Bog and threatens the sovereignty of the frog. The frog wanted to earn more money. Did not care about the nightingale.</p> <p style="text-align: center;"><b>OR</b></p> <p>In the poem sunset symbolizes death. The poetess regards death as the great unknown and mystery. So she says the finality of death leaves one helpless and not known to her anything about it.</p>	<p>2</p> <p>2</p> <p>2</p>	<p>2</p> <p>2</p> <p>2</p>
18	<p>As Raicharan was old and weak his employer was not pleased with his service. He had no money left to afford the requirement of Phailna. He was even starving for the child's sake. Now he knew that he could not look after Phailna properly. So, finally he decided to himself that he would take Phailna to Anukul. Raicharan had a firm belief that Phailna was the little master reborn in his house. He also thought that Anukul and his wife would be very happy to get back their child and also he would be near Phailna as a servant to Anukul. Thus he came to Anukul and told him that it was not the Padma who stole the child but it was he who did it.</p> <p style="text-align: center;"><b>OR</b></p>	<p>2+3</p>	<p>5</p>

**ENGLISH**  
**Scoring key / Outline Answer and Marking Scheme**

Sl. No.	Text	Mark for each point	Total Marks
	<p>Mathilde sometimes thought of that gay evening of long ago, of that ball where she had been so beautiful and so admired. The loss of the necklace ended everything for her now. She suffered poverty for ten years. She looked old and became the woman of impoverished households. Now everything is gone – her beauty, her youth. The writer says that life is mysterious. So we should try to be happy with what we have. We do not know what may happen in the next moment.</p> <p>Once the convict was caught for stealing to feed his hungry and ailing</p>		
19	<p>wife. For that he was sentenced to ten years in the prison. It was too severe a punishment for the petty theft. He was badly treated in prison. He was chained like a wild animal and whipped like a dog - feed on filth, his body was covered with vermin and slept on boards. This inhuman treatment turned him into a beast - it made him lost all faith in goodness, charity, humanity and became a number. By chance he escaped from the prison but nobody was ready to provide him food and shelter- he was wandering free to starve. All this left his heart filled with despair, hopelessness, bitterness and anger.</p> <p style="text-align: center;"><b>OR</b></p> <p>The convict was on the run. He had no paper and no name. So he thought that he would be quite safe in Paris - for it was a big place - he could be lost very easily there and no one would be able to arrest him in the crowd of that big city.</p> <p>The convict did not believe that there was any goodness in the world. But the nobility and benevolence of the Bishop - his kind and sympathetic treatment transformed him completely. Goodness again prevailed upon him. So he asked the Bishop for his blessing that he thought, would help him before leaving for Paris.</p>	2+3	5



2018

**MATHEMATICS**

Full Marks-80

Pass Marks - 20

Time: Three hours

Attempt **All** questions.

The figures in the right hand margin indicate full marks for the questions.

For Question Nos. 1 to 5, write the letter corresponding to the correct answer.

1. If  $\sin(\theta+55^\circ) = \cos(7\theta-5^\circ)$ , then the value of  $\theta$  is : 1

$\sin(\theta+55^\circ) = \cos(7\theta-5^\circ)$  উৎপন্ন  $\theta$  এর value কত? ১

$\sin(\theta+55^\circ) = \cos(7\theta-5^\circ)$  ওইরবদি  $\theta$  গী value দি মখাগীসিনি।

(A)  $5^\circ$

(B)  $10^\circ$

(C)  $20^\circ$

(D)  $25^\circ$

2. Area of a circle is  $154\text{cm}^2$ , its perimeter in cm is 1

Circle এর area  $154\text{cm}^2$  টা ১। এর cm এর উৎপন্ন perimeter কত? ১

Circle অমগী area  $154\text{cm}^2$  নি। মসিগী cm দা ওনবা perimeter মখাগীসিনি।

(A) 22

(B) 44

(C) 77

(D) 88

3. The line segment joining the points  $(-2, -3)$  and  $(5, 6)$  is divided by the x-axis in the ratio : 1

$(-2, -3)$  ও  $(5, 6)$  বিন্দু দুটির যোগে গঠিত রেখাংশ x-axis টা কত ratio এ বিভক্ত? ১

$(-2, -3)$  অমসুং  $(5, 6)$  হায়া বিন্দু দুটির যোগে গঠিত রেখাংশ x-axis টা কত ratio এ বিভক্ত? ১

(A) 3:2

(B) 2:3

(C) 2:1

(D) 1:2

Contd.

4.  $x^n + a^n$  is divided by  $x + a$  only when  $n$  is : 1  
 $n$  ট ক্ষেত্রলৈ আঁৰণ ক্ষেত্ৰ  $x^n + a^n$  ক  $x + a$  ট ভাগে দিহে ॥  
 $n$  না মখাগীসি ওইব মতমদা  $x^n + a^n$  বু  $x + a$  না লেমদনা যেনবা যাই।  
 (A) even  
 (B) odd  
 (C) prime  
 (D) composite
5. If D, E, F are respectively the mid-points of the sides BC, CA, AB of a  $\triangle ABC$ , then the ratio of the area of  $\triangle DEF$  to the area of  $\triangle ABC$  is : 1  
 $\triangle DEF$  ট  $\triangle ABC$  ৰ ক্ষেত্ৰলৈ BC, CA, AB ৰেখা side লৈয়া ক্ষেত্ৰ চিহ্নলৈ আঁৰণ  
 $\triangle DEF$  ৰ area ট  $\triangle ABC$  ৰ area ৰে আঁৰণ ratio ক ক্ষেত্ৰলৈ :  
 $\triangle DEF$  না  $\triangle ABC$  গী মখাগীসি BC, CA, AB হয়বা side শিংগী ময়ায় বিন্দুশিং ওইবদি  
 $\triangle DEF$  কী area না  $\triangle ABC$  গী area গা ওইনবা ratio দু মখাগীসিনি :  
 (A) 1:2  
 (B) 1:3  
 (C) 1:4  
 (D) 1:5
6. Find the canonical decomposition of 3528. 1  
 $3528$  ৰ canonical decomposition ৰাখি ॥  
 $3528$  কী canonical decomposition পুথোকউ।
7. State division algorithm for polynomials. 1  
 Division algorithm for polynomials ৰাখি ॥  
 Division algorithm for polynomials গী ৰাখি ॥
8. What is meant by a sequence ? 1  
 Sequence ৰেখা ৰাখি ॥  
 Sequence হয়বা কৰিব খণ্ডনবগে ?
10. Find the value of  $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ$ . 1  
 $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ$  ৰ value ৰাখি ॥  
 $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ$  গী value পুথোকউ।



10. Write the statement of Factor Theorem. 1  
 Factor Theorem ৰূপে সূচক ৷  
 Factor Theorem গী বারোল ইয়ু।
11. Define a random experiment. 1  
 Random experiment সূচকৰ ক্ষেত্ৰত ৷  
 Random experiment হয়বসি কৰিবুনো তাকউ।
12. If two events A and B are such that  $P(A)+P(B) = 1$ , write  $P(B)$  in terms of  $P(A)$ . 1  
 দুটা ঘটনা A আৰু B সূচকৰ ক্ষেত্ৰত  $P(A)+P(B) = 1$  হ'লে  $P(B)$   $P(A)$  ৰ ওপৰত সূচক ৷  
 কৰিগুৱা A অমসুং B হয়বা event অনিহি  $P(A)+P(B) = 1$  ওইবদি  $P(B)$  অসি  $P(A)$  দা  
 শাদেকুগা ইয়ু।
13. Write down the formula for the area of sector of a circle in terms of the radius and the arc length. 1  
 Radius আৰু arc দ্বাৰা সূচকৰ ক্ষেত্ৰত circle ক্ষেত্ৰৰ area ৰ  
 formula ৷  
 Radius অমসুং arc কী অশাংবদা শাদেকুগা circle অমগী sector অমগী area গী formula  
 ইয়ু।
14. Establish the formula  $S_n = \frac{n}{2} [2a + (n-1)d]$  for the sum of the first n terms of an AP. 2  
 AP ক্ষেত্ৰত n term ৰ সূচকৰ ক্ষেত্ৰত formula  
 $S_n = \frac{n}{2} [2a + (n-1)d]$  ৰূপে establish ৷  
 AP অমগী অহনবা n term গী তিনশিল্প-ফল পুথোকুগা formula  
 $S_n = \frac{n}{2} [2a + (n-1)d]$  অসি establish তৌ।
15. When a polynomial  $p(x)$  is divided by  $3x-1$ , the quotient and remainder are  $x^2-3x+2$  and 5 respectively. Find  $p(x)$ . 2  
 Polynomial  $p(x)$  ৰূপে  $3x-1$  ৰে বিভাজিত, বীজকৰ ক্ষেত্ৰত  $x^2-3x+2$   
 বীজকৰ ক্ষেত্ৰত 5 ৰূপে  $p(x)$  ৰূপে ৷  
 Polynomial  $p(x)$  ৰূপে  $3x-1$  ৰে যেনবদা, অথুংবা অমসুং অৱশ্যে মথংশিংনা  $x^2-3x+2$  অমসুং 5  
 নি।  $p(x)$  পুথোকউ।

16. Write down the roots of the quadratic equation  $ax^2 = bx + c = 0$ . If  $a + b + c = 0$ , what are the roots of the equation  $ax^2 = bx + c = 0$ ? 2

$ax^2 = bx + c = 0$  লৈছে quadratic equation আৰু root লৈছে দুটি।  $a + b + c = 0$  হৈছে  $ax^2 = bx + c = 0$  লৈছে equation আৰু root লৈছে দুটি।

$ax^2 = bx + c = 0$  হয়বা quadratic equation অসিগী root শিংদু ইয়ু। কৰিগুমা  $a + b + c = 0$  ওইবদি  $ax^2 = bx + c = 0$  হয়বা equation অসিগী root শিংদু কৰি-কৰিনো?

17. Show that any square number cannot be put in the form  $4k + 2$ . 2

Square number  $4k + 2$  নী সৰ্বোচ্চ  $4k + 2$  লৈছে নহয়।

Square number খুদিংমক  $4k + 2$  গী মওন্দা থম্বা যাদে হয়বা উৎলু।

18. A solid metallic cone is 24cm high and radius of its base is 6cm. If it is melted and recast into a solid sphere, find the radius of the sphere. 2

cone আৰু  $24\text{cm}$  আৰু base radius  $6\text{cm}$ ।  $24\text{cm}$  cone sphere লৈছে radius  $6\text{cm}$ ।

ধাতুগী cone অমগী অৰাংবা  $24\text{cm}$  অমসুং base গী radius না  $6\text{cm}$ । মসি শৌদোকহল্লগা sphere গী মওন্দা হৈবদি sphere অদুগী radius পুথোকউ।

19. Prove that : 3

$$a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2 + b^2 + c^2 - ab - bc - ca).$$

$$\text{প্রমাণ তৈ : } a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2 + b^2 + c^2 - ab - bc - ca).$$

20. If  $\alpha$  and  $\beta$  are the roots of the equation  $ax^2 + bx + b = 0$ , prove that

$$\sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}} + \sqrt{\frac{a}{b}} = 0 \quad 3$$

$\alpha$  আৰু  $\beta$   $ax^2 + bx + b = 0$  লৈছে equation আৰু root লৈছে

$$\sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}} + \sqrt{\frac{a}{b}} = 0 \text{ লৈছে } a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2 + b^2 + c^2 - ab - bc - ca) \text{।}$$

কৰিগুমা  $\alpha$  অমসুং  $\beta$  অসি  $ax^2 + bx + b = 0$  হয়বা equation অসিগী root শিংদু ওইবদি,

$$\sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}} + \sqrt{\frac{a}{b}} = 0 \text{ ওই হয়বা প্রমাণ তৈ।}$$

- 3

Graph কী মতেংনা solve তো।

$$\frac{x}{6} + \frac{y}{4} = 1$$

- 3

Circle অমগী মপান্দা লৈবা বিন্দু অমদগী য়েকপা tangent শিং সাংবা মাত্ৰৈ হয়বা প্রমান তৌ।

- 3

প্রমাণ তৌ :  $(\operatorname{cosec}\theta - \sin\theta)(\sec\theta - \cos\theta) = \frac{1}{\tan\theta + \cot\theta}$

- চহি  $x$  শুরবা মীওই অমা চহি অমগী মনুংদা শিগনি হায়বগী probability অদু  $p$  নি হায়না পীথোক্লে।  
করিগুম্বা Mr. A অসি চহি  $x$  শুরবা মীওই মরিগী মনুংদা অমা ওইরবদি, চহি অমগী মনুংদা যামদ্রবদা  
মথোয় মরিগী মনুংদা অমদি শিগনি অদুগা Mr. A না ইহান হান্না শিগদবা মীশকশু ওইগনি হায়বগী  
probability পুথোকড।

25. Prove that  $|x+y| \leq |x| + |y|$  or every  $x, y \in \mathbb{R}$  and hence deduce that  $|x-y| \geq |x|-|y|$ . 4

$x, y \in \mathbb{R}$  হলে,  $|x+y| \leq |x| + |y|$  কে প্রমাণ করে এবং এর ফলে  $|x-y| \geq |x|-|y|$  প্রমাণ করুন।

$x, y \in \mathbb{R}$  হলে  $|x+y| \leq |x| + |y|$  ওই হয়বা প্রমাণ তৈরি অদুগা মদুদগী  $|x-y| \geq |x|-|y|$  তাহলকউ।

Or/অথবা/নংত্রগা

Prove that :

(i) If  $x, y, z \in \mathbb{R}$ ,  $x \neq 0$  and  $xy = xz$  then  $y = z$ .

(ii)  $x \cdot 0 = 0$  for any  $x \in \mathbb{R}$ .

প্রমাণ করুন :

(i)  $x, y, z \in \mathbb{R}$ ,  $x \neq 0$  হলে  $xy = xz$  হলে  $y = z$  হবে।

(ii)  $x \in \mathbb{R}$  হলে  $x \cdot 0 = 0$  হবে।

প্রমাণ তৈরি :

(i)  $x, y, z \in \mathbb{R}$ ,  $x \neq 0$  অমসুং  $xy = xz$  হলে  $y = z$  ওই।

(ii)  $x \in \mathbb{R}$  অমসুং  $x \cdot 0 = 0$  ওই।

26. Find the coordinates of the point which divides the line segment joining the points  $(x_1, y_1)$  and  $(x_2, y_2)$  internally in the ratio  $m:n$ . 4

$(x_1, y_1)$  ও  $(x_2, y_2)$  বিন্দু দুটির যেকোনো বিন্দু  $m:n$  ratio-তে বিভাজিত করে।

$(x_1, y_1)$  অমসুং  $(x_2, y_2)$  হয়বা বিন্দু দুটির যেকোনো বিন্দু  $m:n$  ratio-তে বিভাজিত করে।

27. A rectangular garden is of the same area as another which is 6m longer and 4m narrower. It is also of the same area as a third garden which is 8m longer and 5m narrower. Find the cost of fencing the garden at the rate of Rs. 500/- per metre.

Rectangle-এর ক্ষেত্রফল  $6m$  দৈর্ঘ্য এবং  $4m$  প্রস্থের অন্য একটি ক্ষেত্রফল  $8m$  দৈর্ঘ্য এবং  $5m$  প্রস্থের একটি ক্ষেত্রফল  $500/-$  per metre-এর দরমায় বেঁধে দেওয়া হবে।

Rectangle ওইবা ইংখোল অমগী area অদু ময়ুংদনা 6m শাংবা হেনবা অমসুং মরাত্তনা 4m হুহুবা ইংখোল অমগী area গা মাইনৈ। মসি ময়ুংদনা 8m শাংবা হেনবা অমসুং মরাত্তনা 5m হুহুবা অহুমশুবা ইংখোল অমগী area গসু মাইনৈ। metre দা Rs. 500/- গী চাংদা ইংখোল অদু শম্বল খাবদা চঙগদবা শেনফমদু পুথোকউ।

28. Construct a pair of tangents to a circle of radius 2.5cm from an external point which is at a distance of 6cm from the centre of the circle. Write the steps of construction.

Radius 2.5cm ওইচ circle ওফাৰ্চ centre জাৰ্চ 6 cm টেগে ফাৰ্চজাৰ্চ ঠাঙিল্ল ওফাৰ্চ circle ওফাৰ্চ tangent টাৰ্চ ওফাৰ্চ মাইল্ল। Construction ঠাৰ্চ step ওফাৰ্চ চহ্ল।

Radius 2.5cm ওইবা circle অমগী centre দগী 6 cm লাপ্লা মপানগী বিন্দু অমদগী circle অদুদ tangent জুৰা অমা চিংঙ। Construction গী step শিংদু ইয়ু।

Or/ওফাৰ্চ/নংত্রগা

Construct a triangle similar to a given triangle  $\triangle ABC$  with its sides equal to  $\frac{4}{7}$  of the corresponding sides of the ABC. Write steps of construction.

ওফাৰ্চ  $\triangle ABC$  ঠাৰ্চ similar ওইচ, side ওফাৰ্চ  $\triangle ABC$  ঠাৰ্চ মইল্ল side ওফাৰ্চ  $\frac{4}{7}$  ওইচ triangle ওফাৰ্চ construct সঁ। construction ঠাৰ্চ step ওফাৰ্চ চহ্ল।

অপীবা  $\triangle ABC$  দা similar ওইবা, side শিংদুনা  $\triangle ABC$  গী চান্নবা side শিংগী  $\frac{4}{7}$  ওইবা triangle অমা construct তৌ। construction গী step শিংদু ইয়ু।

29. From the top of a house of height  $h$ , the angle of elevation and depression of the top and bottom of a tower are  $\alpha$  and  $\beta$  respectively. Prove that the height of the tower is  $h(1+\tan\alpha \cot\beta)$ .

ওফাৰ্চ  $h$  ওইচ হুহু ওফাৰ্চ ফাৰ্চজাৰ্চ হুহুচ tower ওফাৰ্চ ফাৰ্চজাৰ্চ elevation ঠাৰ্চ angle ওফাৰ্চ ফাৰ্চজাৰ্চ depression ঠাৰ্চ angle ওফাৰ্চ  $\alpha$  ওফাৰ্চ  $\beta$  টাৰ্চ। Tower ওফাৰ্চ ওফাৰ্চ  $h(1+\tan\alpha \cot\beta)$  টাৰ্চ ঠাৰ্চ ফাৰ্চজাৰ্চ সঁ।

অবাংবা  $h$  ওইবা যুম অমগী মতোন্দগী য়েংবদা tower অমগী মতোনগী elevation গী angle অমসুং মথোঙগী depression গী angle শিংনা  $\alpha$  অমসুং  $\beta$  নি। Tower অদুগী অবাংবা  $h(1+\tan\alpha \cot\beta)$  টাৰ্চ ঠাৰ্চ ফাৰ্চজাৰ্চ সঁ।

30. The median of the following distribution is 2.5. Find the value of x and y if the total frequency is 100. 5

মধ্যে distribution এর median 2.5 টা। Total frequency 100 এবং x এবং y এর value খুঁজে বের কর।  
 মখাদা পীরিবা distribution অসিগী median 2.5 নি। অপুনবা frequency 100 ওইরবদি x  
 অমসুং y গী value পুথোকউ।

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	2	5	x	12	17	20	y	9	7	4

31. State and prove Pythagoras Theorem. 6

Pythagoras Theorem এর সঠিক চিত্র আঁকুন এবং প্রমাণ করুন।  
 Pythagoras Theorem গী বারোল ইয়ু অমসুং প্রমান তৌ।

Or/অথবা/নংত্রগা

State and prove AAA-Similarity Theorem.

AAA-Similarity Theorem এর সঠিক চিত্র আঁকুন এবং প্রমাণ করুন।  
 AAA-Similarity Theorem গী বারোল ইয়ু অমসুং প্রমান তৌ।

32. From a cone of height 24cm, a smaller cone is cut off by a plane parallel to the base. If the volumes of the cones are in the ratio 8:27, find the height of the resulting frustum.

উচ্চতা 24cm এর cone কে base এর parallel একটি plane দিয়ে কেটে ফেলা হল। Cone এর volume এর ratio 8:27 হলে, ফ্রাস্টামের উচ্চতা কত হবে।

অথবা 24cm উচ্চতা cone কে base এর parallel একটি plane দিয়ে কেটে ফেলা হল। Cone এর volume এর ratio 8:27 হলে, ফ্রাস্টামের উচ্চতা কত হবে।

**SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME**  
**HSLC EXAMINATION - 2018**

**SUBJECT : MATHEMATICS**

**- 80 MARKS**

Sl. No.	ANSWERS	Mark for each point	Total Marks
1	(A)	1	1
2	(B)	1	1
3	(D)	1	1
4	(B)	1	1
5	(C)	1	1
6	$  \begin{array}{r l}  2 & 3528 \\  2 & 1764 \\  2 & 882 \\  3 & 441 \\  3 & 147 \\  7 & 48 \\  & 7  \end{array}  $ $  \begin{aligned}  3528 &= 2 \times 2 \times 2 \times 3 \times 3 \times 7 \times 7 \\  &= 2^3 \times 3^2 \times 7^2  \end{aligned}  $	1	1
7	Book result	1	1
8	Book definition	1	1
9	$  \begin{aligned}  &\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ \\  &= \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} + \frac{1}{2} \times \frac{1}{2} \\  &= \frac{3}{4} + \frac{1}{4} \\  &= 1  \end{aligned}  $	1	1
10	Book result	1	1
11	Book definition	1	1
12	$  \begin{aligned}  &P(A) + P(B) = 1 \\  \Rightarrow &P(B) = 1 - P(A) \\  &= P(\bar{A}) \quad [P(A) + P(\bar{A}) = 1]  \end{aligned}  $	1	1

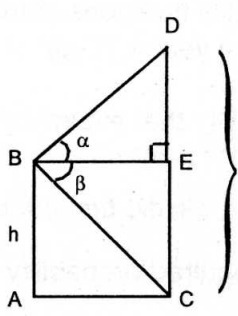


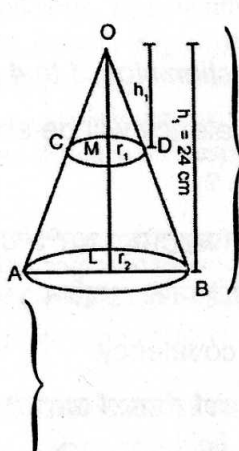
13	Area of sector $\frac{1}{2}rs$	1	1
14	Bok Result	1	1
15	<p>Here, dividend = <math>P(x)</math></p> <p>divisor = <math>3x-1</math></p> <p>quotient = <math>x^2-3x+2</math></p> <p>remainder = <math>5</math></p> <p>By division algorithm, we have</p> <p>dividend = divisor<math>\times</math>quotient+remainder</p> <p><math>\Rightarrow P(x) = (3x-1)(x^2-3x+2) + 5</math></p> <p><math>= 3x^3-10x^2+9x+3</math></p>	<p>1</p> <p>1</p>	2
16	<p>Roots of the quadratic equation <math>ax^2+bx+c = 0</math> are</p> <p><math>\frac{-b+\sqrt{b^2-4ac}}{2a}</math> and <math>\frac{-b-\sqrt{b^2-4ac}}{2a}</math></p> <p>if <math>a+b+c = 0</math>, then roots of the equation</p> <p><math>ax^2+bx+c = 0</math> are <math>1</math> and <math>\frac{c}{a}</math></p>	<p>1</p> <p>1</p>	2
17	<p>Now, <math>4k+2 = 2(2k+1)</math>, For this product to be a perfect square, the number <math>2k+1</math> must have 2 as its prime factor, which is impossible as the number <math>2k+1</math> is odd.</p> <p>Therefore, the number <math>4k+2</math> cannot be a perfect square. Hence, any square number cannot be put in the form <math>4k+2</math>.</p>	<p>1</p> <p>1</p>	2
18	<p>Volume of the cone = <math>\frac{1}{3}\pi r^2h</math></p> <p><math>= (\frac{1}{3}\pi \times 6^2 \times 24)\text{cm}^3</math></p> <p>Let <math>R</math> be the radius of the sphere.</p> <p>Then, volume of the sphere = <math>\frac{4}{3}\pi R^3</math></p> <p>By question, <math>\frac{4}{3}\pi R^3 = \frac{1}{3}\pi \times 6^2 \times 24 \Rightarrow R = 6</math></p> <p>Hence, radius of the sphere is 6cm.</p>	<p>1</p> <p>1</p>	2



19	Book result	3	3
20	<p>Since <math>\alpha</math> and <math>\beta</math> are the roots of the equation <math>ax^2 + bx + b = 0</math>,</p> <p>then <math>\alpha + \beta = \frac{-b}{a}</math> and <math>\alpha.\beta = \frac{b}{a}</math></p> <p><math>\therefore \sqrt{\frac{\alpha}{\beta}} + \sqrt{\frac{\beta}{\alpha}} + \sqrt{\frac{b}{a}} = \frac{\alpha+\beta}{\sqrt{\alpha.\beta}} + \sqrt{\frac{b}{a}}</math></p> <p><math>= \frac{\frac{-b}{a}}{\sqrt{\frac{b}{a}}} + \sqrt{\frac{b}{a}}</math></p> <p><math>= -\sqrt{\frac{b}{a}} + \sqrt{\frac{b}{a}} = 0</math></p>	<p>1</p> <p>1</p> <p>1</p>	3
21	<p>1 mark for each graph.</p> <p>The two graph intersect at the point (3.2). Hence, the solution of the given pair of equation is <math>x = 3</math> and <math>y = 2</math></p>	<p>1+1</p> <p>1</p>	3
22	Book theorem	3	3
23	<p>L.H.S. = <math>(\operatorname{cosec}\theta - \sin\theta)(\sec\theta - \cos\theta)</math></p> <p><math>= \left(\frac{1}{\sin\theta} - \sin\theta\right)\left(\frac{1}{\cos\theta} - \cos\theta\right)</math></p> <p><math>= \left(\frac{1-\sin^2\theta}{\sin\theta}\right)\left(\frac{1-\cos^2\theta}{\cos\theta}\right)</math></p> <p><math>= \frac{\cos^2\theta\sin^2\theta}{\sin\theta\cos\theta}</math></p> <p><math>= \sin\theta\cos\theta</math></p> <p><math>= \frac{\sin\theta\cos\theta}{\cos^2\theta+\sin^2\theta} \quad [\because \sin^2\theta+\cos^2\theta = 1]</math></p> <p><math>= \frac{1}{\frac{\sin^2\theta+\cos^2\theta}{\sin\theta\cos\theta}}</math></p> <p><math>= \frac{1}{\tan\theta+\cot\theta}</math></p> <p>= R.H.S.</p>	<p>1</p> <p>1</p> <p>1</p>	3

24	<p>Probability that a person aged <math>x</math> years will not die in a year = <math>1-p</math></p> <p><math>\therefore</math> Probability that none of the four person all aged <math>x</math> years will die in a year = <math>(1-p)^4</math></p> <p><math>\therefore</math> Probability that atleast one of the four person will die in a year = <math>1-(1-p)^4</math></p> <p>Also, Mr. A will die first out of the four persons = <math>\frac{1}{4}</math></p> <p>Hence, required probability = <math>\{1-(1-p)^4\} \times \frac{1}{4}</math></p> <p style="text-align: center;"><math>= \frac{1-(1-p)^4}{4}</math></p>	<p>}</p> <p>1</p> <p>}</p> <p>1</p> <p>}</p> <p>1</p>	<p>3</p>
25	Book result	4	4
26	Book result	4	4
27	<p>Let <math>x</math> m be the length and <math>y</math> m be the breadth of the rectangular garden. Then by question, we have</p> <p><math>(x+6)(y-4) = xy \Rightarrow 3y-2x = 12 \dots\dots\dots(1)</math></p> <p>and <math>(x+8)(y-5) = xy \Rightarrow 8y-5x = 40 \dots\dots\dots(2)</math></p> <p>Solving (1) and (2), we get,</p> <p><math>x = 24</math> and <math>y = 20</math></p> <p>Then, perimeter of the garden = <math>2(x+y)</math></p> <p style="text-align: center;"><math>= 2(24+20) = 88\text{m.}</math></p> <p>Hence, cost of fencing the garden = <math>500 \times 88 = \text{Rs. } 44000.</math></p>	<p>}</p> <p>1</p> <p>}</p> <p>1</p> <p>}</p> <p>1</p> <p>}</p> <p>1</p>	<p>4</p>
28	<p>Cosntruction</p> <p>Step of construction</p>	<p>2</p> <p>3</p>	<p>5</p>

29	<p>Let AB represent the house</p> <p>CD the tower and <math>BE \perp CD</math></p> <p>By question, <math>AB = h</math>,</p> <p><math>\angle DBE = \alpha</math></p> <p>and <math>\angle EBC = \beta</math></p>	3	3
	 <p>From the <math>\triangle CBE</math>, we have</p> $\frac{BE}{CE} = \cot \beta$ $\Rightarrow \frac{BE}{h} = \cot \beta \quad [\because CE = AB = h]$ $\Rightarrow BE = h \cot \beta \dots\dots\dots(1)$ <p>Again, from the <math>\triangle DBE</math>, we have</p> $\frac{DE}{BE} = \tan \alpha$ $\Rightarrow \frac{DE}{h \cot \beta} = \tan \alpha \quad [\because \text{of (i)}]$ $\Rightarrow DE = h \tan \alpha \cot \beta$ <p>Hence the height of the tower = CD</p> $= CE + ED$ $= h + h \tan \alpha \cot \beta$ $= h(1 + \tan \alpha \cot \beta)$	1 1 1 1 1	5

30	<p>For table Median class is 50-60</p> <p>By question, <math>50 + \frac{100 - (36+x)}{20} \times 10 = 52.5</math></p> <p><math>\Rightarrow 14 - x = 5</math> <math>\Rightarrow x = 9</math></p> <p>Also, <math>x + y + 76 = 100</math> <math>\Rightarrow 9 + y + 76 = 100</math> <math>\Rightarrow y = 15</math></p>	<p>2</p> <p>2</p> <p>1</p>	5
31	<p>Statement</p> <p>Proof</p>	<p>1</p> <p>5</p>	
32	<p>Let <math>r_1</math> and <math>r_2</math> be the radii of the two cones (<math>r_1 &lt; r_2</math>)</p> <p>Here, <math>h_1</math> = height of the given cone = 24 cm.</p> <p>Let <math>h_2</math> be the height of the smaller cone.</p> <p>In the adjoining figure, <math>\triangle OMD \sim \triangle OLB</math></p> <p><math>\therefore \frac{MD}{LB} = \frac{OM}{OL} \Rightarrow \frac{r_2}{r_1} = \frac{h_2}{h_1} \dots \dots \dots (1)</math></p> <p>Now, <math>\frac{\text{Volume of the cone OCD}}{\text{Volume of the cone OAB}} = \frac{8}{27}</math></p> <p><math>\Rightarrow \frac{\frac{1}{3} \pi r_2^2 h_2}{\frac{1}{3} \pi r_1^2 h_1} = \frac{8}{27}</math></p> <p><math>\Rightarrow \left(\frac{r_2}{r_1}\right)^2 \left(\frac{h_2}{h_1}\right) = \frac{8}{27}</math></p> <p><math>\Rightarrow \left(\frac{h_2}{h_1}\right)^3 = \left(\frac{2}{3}\right)^3 \quad [\because \text{of (1)}]</math></p> <p><math>\Rightarrow \frac{h_2}{h_1} = \frac{2}{3} \Rightarrow h_2 = \frac{2}{3} h_1 = \frac{2}{3} \times 24 = 16 \text{ cm.}</math></p> <p><math>\therefore</math> height of the resulting frustum = <math>h_1 - h_2</math> = <math>24 - 16 = 8 \text{ cm.}</math></p>	 <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	6

2018

Science

Full Marks-80

P a s - 20

Time: Three hours

Attempt all questions.

The figures in the right hand margin indicate full marks for the questions.

**SECTION-A**

**Chemistry**

(Marks – 26)

Answer Question Nos. 1 to 4 in a sentence, a word or a phrase or an equation.

1. What valency will be shown by the element having sixteen protons in its nucleus? 1

কোনো উপস্থাপিত ১৬ টি প্রোটন আছে এমন মৌলটির বৈদ্যুতিক বৈশিষ্ট্য কত?

মৌলটির বৈদ্যুতিক বৈশিষ্ট্য ১৬ লৈব ইলিমেন্ট অদুনা ভেলেনি কয়া উৎকদগে?

2. Define covalency. 1

অণুগত বৈদ্যুতিক বৈশিষ্ট্য কত?

কোভেলেন্সি হাযবসি করিনো শেংনা তাকউ।

3. Write the formula of the acid salt formed by the reaction of sodium hydroxide and carbonic acid. 1

সোডিয়াম হাইড্রক্সাইড অমসুং কার্বোনিক এসিডের বিক্রিয়ায় (একক) সোডিয়াম

কার্বোনেট সোডিয়াম (একক) সোডিয়াম

সোডিয়াম হাইড্রক্সাইড অমসুং কার্বোনিক এসিডের বিক্রিয়ায় (একক) সোডিয়াম

সোডিয়াম হাইড্রক্সাইড অমসুং কার্বোনিক এসিডের বিক্রিয়ায় (একক) সোডিয়াম

Contd.

4. Double displacement reaction does not take place when aqueous solutions of  $\text{NaNO}_3$  and  $\text{KCl}$  are mixed together. Give reason. 1

$\text{NaNO}_3$  and  $\text{KCl}$  mixed together, no reaction takes place. Reason:  $\text{NaNO}_3$  and  $\text{KCl}$  are both soluble in water and no precipitate is formed. Hence, no reaction occurs.

$\text{NaNO}_3$  and  $\text{KCl}$  mixed together, no reaction takes place. Reason:  $\text{NaNO}_3$  and  $\text{KCl}$  are both soluble in water and no precipitate is formed. Hence, no reaction occurs.

Answer Question Nos. 5 to 8 in about 30 words or as per directive.

5. Which of the two solutions of same concentration, hydrochloric acid and acetic acid will have higher pH? Give reason. 2

Hydrochloric acid (HCl) is a strong acid and acetic acid ( $\text{CH}_3\text{COOH}$ ) is a weak acid. Therefore, HCl will have a lower pH than acetic acid.

Hydrochloric acid (HCl) is a strong acid and acetic acid ( $\text{CH}_3\text{COOH}$ ) is a weak acid. Therefore, HCl will have a lower pH than acetic acid.

6. Draw a labelled diagram showing the aggregates of anions around a cation in  $\text{NaCl}$  Crystal. 2

In  $\text{NaCl}$  crystal,  $\text{Na}^+$  cations are surrounded by  $\text{Cl}^-$  anions and  $\text{Cl}^-$  anions are surrounded by  $\text{Na}^+$  cations. The diagram should show a central cation surrounded by anions in a cubic arrangement.

$\text{NaCl}$  crystal is made of  $\text{Na}^+$  and  $\text{Cl}^-$  ions. The diagram should show a central cation surrounded by anions in a cubic arrangement.

7. In a metallurgy process;  $\text{HgO}$ ,  $\text{MgO}$  and  $\text{Al}_2\text{O}_3$  are separately heated with Zinc metal. Which one of the metals will be extracted? Give reason. 2

$\text{HgO}$  will be extracted because it is a less stable oxide and reacts with  $\text{Zn}$  to form  $\text{ZnO}$  and  $\text{Hg}$ .  $\text{MgO}$  and  $\text{Al}_2\text{O}_3$  are more stable and do not react with  $\text{Zn}$ .

$\text{HgO}$  will be extracted because it is a less stable oxide and reacts with  $\text{Zn}$  to form  $\text{ZnO}$  and  $\text{Hg}$ .  $\text{MgO}$  and  $\text{Al}_2\text{O}_3$  are more stable and do not react with  $\text{Zn}$ .

8. Explain how washing with water sterilized with Bleaching powder affect coloured linen and cotton clothes. 2

Bleaching powder (sodium hypochlorite) is used to sterilize water. It releases chlorine which bleaches the dyes in the clothes, making them lose their color.

Bleaching powder (sodium hypochlorite) is used to sterilize water. It releases chlorine which bleaches the dyes in the clothes, making them lose their color.

Answer Question Nos. 9 to 11 in about 50-60 words or as per directions.

9. Elements A, B and C form a Dobereiner's triad given as follows :

Element	Atomic mass
A	7
B	23
C	x

Calculate 'x'. Does the triad also exist in Newland's Octaves ? 3

තර්කානුකූලව A, B සහ C ට නිෂ්පාදනයක් නිෂ්පාදනය සහ සැකසීමේ කාලයන් සහිතව පහත දැක්වේ :

Element	Atomic mass
A	7
B	23
C	x

'X' ගේ ජ්‍යෙෂ්ඨ ආකේෂක උපදේශකයාගේ ප්‍රතිචාරය කුමක් වියද?

ইলিমেন্টশিং A, B অমসুং C দোবরিনরগী ট্রাইএদ অমা মখাদা পীরিবা অসুয়া শেম্মী:

Element	Atomic mass
A	7
B	23
C	x

'x' অসি হোংলগ পুথোকউ। ট্রাইএদ অসি নিউলেন্দসগী ওক্টেভশিংদসু যাওব্রা?

10. What are redox reactions ? Give an example and identify the reducing agent in the reaction. 3

ආණ්ඩාගාර සංවරදයේ වැදගත්කම (අධිකාරීත්වය) ගැන කතා කරන්න ? දුෂ්කර පොදු ජනයා සතුටු  
සංවරදයක් ලෙස අපි බලන්න විශේෂයෙන්ම මෙම සහතිකය බලන්න.

রেদোক্স হোংনথৌওংশিং (রএক্সনশিং) অসি করনো ? খুদম অমা পীম্বু অমসুং হোংনথৌওংঅদুদা  
রিদ্যশিং এজেন্ট অদ মশক তাকউ।

11. What are alloys ? Give the composition of solder and Zinc amalgam. 3

ဖေ့တဲသကိယ ဖက် ညဏ်တဲ ? ကဲတဲန ဖေ့တဲ ဟိယ ဖေ့တဲနာနာ နာနဲသကိယန နာနဲ။

এলোয়শিং অসি করনো ? সোলদর অমসুং জিঙ্ক এমেলগমগী পোংচাকশিংদু পীয়ু।



Answer Question Nos. 12 in about 100 words or as per directive.

12. Write the structure and IUPAC name of the structural isomers with molecular formula  $C_3H_6$ . Which one of the isomers can't be a homologue of the unsaturated hydrocarbon series ? How can the isomers be distinguished by a simple chemical test ? 5

সংরূপিত  $C_3H_6$  এর স্ট্রাকচারাল আইসোমারগুলির মধ্যে কোনটি অসংরূপিত হাইড্রোকার্বন সিরিজের হোমোলগ নয়? কীভাবে এই আইসোমারগুলিকে একটি সরল রাসায়নিক পরীক্ষা দ্বারা আলাদা করা যায়?

মৌলিক সূত্র  $C_3H_6$  ওইবা স্ট্রাকচারাল আইসোমারগুলির অণু কয়টি থাকবে? (স্ট্রাকচার) আইসোমারগুলির IUPAC নাম লিখুন। আইসোমারগুলির মধ্যে কোনটি অসংরূপিত হাইড্রোকার্বন সিরিজের হোমোলগ নয়? কীভাবে এই আইসোমারগুলিকে একটি সরল রাসায়নিক পরীক্ষা দ্বারা আলাদা করা যায়?

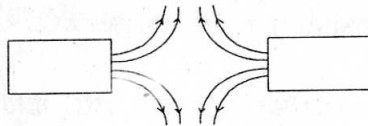
## SECTION – B

### PHYSICS

(Marks – 26)

Answer Question Nos. 13 to 16 in a word or a sentence each.

13. Why is electricity considered as the most convenient form of energy ? 1  
বৈদ্যুতিক শক্তি কেন সবচেয়ে সুবিধাজনক শক্তির রূপ হিসেবে বিবেচিত?
14. Magnetic lines of force of two bar magnets are shown as follows. Name the poles of magnets facing each other. 1  
দুটি স্তম্ভাকার চুম্বকের ম্যাগনেটিক লাইন দুটি চিত্রে দেখানো হয়েছে। দুটি চুম্বকের ম্যাগনেটিক লাইন দুটি চিত্রে দেখানো হয়েছে। দুটি চুম্বকের ম্যাগনেটিক লাইন দুটি চিত্রে দেখানো হয়েছে।



15. What is the role of brushes in an electric motor ? 1  
বৈদ্যুতিক মোটর চালাতে ব্রশের কাজ কী?



16. Draw a ray diagram to show the position of the image formed when the object is placed at infinity from a convex lens. 1

কনভেক্স লেন্স অমদগী ওবজেক্ট অমা ইনফিনিটিদা থম্বা মতমদা শেল্লিবা ইমেজ অদুগী লৈফম উৎপা  
রে দাইগ্রাম অমা য়েকউ।

Answer Question Nos. 17 to 20 in about 30 words each.

17. Connected wires used in electric heater are thicker than used in electric bulb. Why. 2

চতঃসংগ্ৰাণী নীচংগ্ৰাণী লমসচর লটিউপগ্ৰাণীচ মইগ্ৰেচ চতঃসংগ্ৰাণীচ চনচং লটিউপগ্ৰাণীচর  
উচ নংনর্। প্রাণীচর্ ?

ইলেক্ট্রিসিটি হিটর শম্বদা শিজীন্নরিবা রাইয়রনা ইলেক্ট্রিক বম্বতা শিজীন্নরিবদগী থাবা হেল্লি।  
করিগীনো ?

18. Why does dispersion of light occur in a prism but not in a rectangular glass slab ? 2

প্রতল প্রাণীচর অক্ষর ক্ষয়ন লটিগ্ৰাণীচ উচ য়াংত্যাং প্রাণীচর অক্ষর অক্ষাণীচ  
প্রাণীচর্ ?

গ্লাস প্রিজম অমদা মঙাল দিসপারশন থোক্কাগা রেফ্রেক্টর গ্লাস অমদা থোক্কাগা করিগীনো ?

19. Mention two disadvantages of burning of fossil fuels. 2

ইংলি হুদংন মই মইগ্ৰাণে চুন্নামইচ অচিচয় লৈচুন্নু ॥

ফোশিল ফুয়েল মই চাকপদা খুদোংচাদবা অনিখক হয়যু।

20. What is meant by solar constant ? Give its value. 2

লংচের প্রাণীচর অক্ষ লৈচুন্নর্ প্রাণীচর্ ? লংলিচ লংলিচ প্রাণীচ ॥

সোলার কনস্টেন্ট হয়বসি করিনো ? মসিগী মশিং পীয়ু।

Answer Question Nos. 21 to 23 in about 50 words each.

21. Two resistances are in the ratio 1:2. If these are connected in parallel, their equivalent resistance becomes  $8\Omega$ . Calculate the value of each resistance. 3

প্রাণীচর অক্ষ অচিচয় 1:2 চর্ ॥ অচি অচি প্রাণীচর লমচচর্ ক্ষয়চাচ  
চায়েগিচ অক্ষ প্রাণীচর  $8\Omega$  অক্ষাচ ॥ প্রাণীচর চুন্নামইচ লংলিচ লৈচুন্নু ॥

রেজিস্টেন্স অনিগী রেসিও 1:2 নি। অনি অসি পেরেলেলদা শম্বদি মথোয়গী ইকুইভেলেন্ট রেজিস্টেন্স  
 $8\Omega$  ওইরকই। রেজিস্টেন্স খুদি কীং হোংলু :

22. State three advantages of an electromagnet over a permanent magnet. 3  
 চতুষ্প্রদায়কতায় যেমন স্থায়ী চুম্বকতায় চুম্বকীয় ক্ষমতা দুর্বল হয় তখন তড়িৎচুম্বকতায় চুম্বকীয় ক্ষমতা বৃদ্ধি পায়।  
 ইলেক্ট্রোম্যাগনেট অমীমাংসিত মেগনেট অমদগী খুদোংচাবা মরম অহম হয়যু।
23. A concave mirror produces three times enlarged real image of an object placed 10 cm in front of it. Calculate the radius of the curvature of the mirror. 3  
 প্রদত্ত বস্তু স্থাপন করে দেয়াল ওপর 10 cm টায় বসন্ত প্রদর্শন চম্বকীয় তরঙ্গ  
 তরঙ্গ সঞ্চারিত। স্থাপন করে প্রদর্শন ওই প্রদর্শনকে সঞ্চারিত।  
 কনকেভ মিরর অদগী মমাওদা ওবজেক্ট অমা 10 cm লাপা থম্বদা রিএল ইমেজদা শরক অহম  
 চার্ডথোকই। মিরর অদগী রেডিয়স ওফ কর্ভেচার হোংলু।

Answer Question No. 24 in about 100 words.

24. Draw a schematic diagram of an A.C. generator with the help of this diagram and explain the construction of it. 1+4=5
- সমস্ত ছবিতে প্রদত্ত A.C. জেনারেটর এর সংযোগ সিস্টেমটি দেখিয়ে  
সহজ ভাষায় বর্ণনা করুন।
- মচা খায়বা শরকশিং উংপা A.C. জেনারেটর আ য়েকউ অমসুং মদুগী মতেংগা লোয়ননা মদু শাবগী  
মওং শন্দেক্লা তাকউ।

**SECTION – C**  
**BIOLOGY**  
**(Marks – 28)**

Answer Question Nos. 29 to 33 in one sentence.

25. Write the overall equation for photosynthesis.  
 Eশ্বক্সেণ্ডাংলোজিফাই ক্লোরোপ্লাস্ট সালোক শক্তি  
 ফোটোসিন্থেসিসকী ইকেশন মপুংফানা ইয়ু।
26. Define apical dominance.  
 অঙ্গারাম্মান ঠেক্ষিত্যঙলে প্রাপ্তিও চৈয়ার্স  
 এপিকেল দোমিনেন্স করিনো তাকউ।
27. What is ozone shield ?  
 ওশটল ওনিব্র প্রাপ্তিও চৈয়ার্স  
 ওজোন শিল্ড করিনো তাকউ।

29. Give two functions of adrenaline. 2  
 অ্যাড্রেনালিনের দু'টি কার্যকরী ক্ষমতা কী? ২  
 এড্রিনেলিনের দু'টি কার্যকরী ক্ষমতা কী? ২

30. What are the advantages of separation of oxygenated and deoxygenated blood in birds and mammals? Give two points. 2  
 পক্ষী ও স্তন্যপায়ী প্রাণীদের ক্ষেত্রে অক্সিজেনযুক্ত রক্ত ও অক্সিজেনহীন রক্তের পৃথকীকরণের সুবিধা কী? দু'টি বিন্দু দিন। 2  
 পক্ষী ও স্তন্যপায়ী প্রাণীদের ক্ষেত্রে অক্সিজেনযুক্ত রক্ত ও অক্সিজেনহীন রক্তের পৃথকীকরণের সুবিধা কী? দু'টি বিন্দু দিন। ২

31. Draw a neat diagram of a neuron and label axon and dendrite. 2  
 একটি নিউরনের সঠিক চিত্র আঁকুন এবং অক্সন ও ডেন্ড্রাইট লেবেল করুন। 2  
 একটি নিউরনের সঠিক চিত্র আঁকুন এবং অক্সন ও ডেন্ড্রাইট লেবেল করুন। ২

32. How does seed germinates? 2  
 বীজের অঙ্কুরোদগম কীভাবে ঘটে? 2  
 বীজের অঙ্কুরোদগম কীভাবে ঘটে? ২

33. Give two points of differences between Social forestry and Agroforestry. 2  
 সামাজিক বনায়ন ও অগ্রোফরেষ্ট্রির মধ্যে দু'টি পার্থক্য দিন। 2  
 সামাজিক বনায়ন ও অগ্রোফরেষ্ট্রির মধ্যে দু'টি পার্থক্য দিন। ২

34. "If the tails of a group of mice are surgically removed, the offsprings of those tailless mice have tails." Justify the statement.

‘প্রাণীসমূহের ক্ষেত্রে প্রজনন ক্ষমতা বংশগত বৈশিষ্ট্য। প্রজননক্ষমতা বংশগত বৈশিষ্ট্য। প্রজননক্ষমতা বংশগত বৈশিষ্ট্য।’

‘করগিটর উচি কাঙলুপ অমগী মমৈশিংদু সজরিগী পাম্বেনা ককথংলগসু মমৈ যাউদব উচিশিং অদুগী মচাশিং অদ মমৈ যাউনা পল্লকই। রাফমসি চুম্মী হায়বা প্রমান তৌ।

35. "Forest acts as a regular of hydrological cycle." Explain in three points. 3  
‘জলচক্র চলেই থাকে যেমন বন।’ গাছের মাধ্যমে জলের চক্র পরিচালিত হয়।  
‘উৎসাহী ঈশ্বরী সাইকল পাঠ্যপুস্তক মতো তৈরি।’ পাইন্ট অফিস পিছুনা শব্দকে তাকড়।
26. List three environmental impacts of big-dams at the upstream level. 3  
আমাদের দেশে বৃহত্তর সীমান্তে বড় বড় বাঁধের মাঝে মাঝে জলাভয় ঘটেছে।  
অপেক্ষিত লেভেল অর্থাৎ দামশিংনা ইনভার্টমেন্টটা পীবা চেয়েও অল্পখক হয়।

Answer Question No. 37 in about 100 words.

37. Give five points of differences between asexual and sexual reproduction.

ততঃসমুদয়ং প্রাপ্যৈকমত্যন্তো ততঃসমুদয়ং প্রাপ্যৈকমত্যন্তো চণ্ডচৈব সাক্ষ্যম্ নম্রম্ সাক্ষিতম্ ॥  
 অসেকচুয়েল রিপদঅনগা সেকচুয়েল রিপদঅনগা খেম্বা পোইন্ট মঙা পীযু।

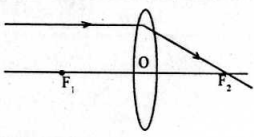
**SCIENCE (CHEMISTRY)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

Sl. No.	Text	Mark for each point	Total Marks
1	2 (2;8, 6) electronic configuration	1	1
2	The number of electrons contributed or sharing by an atom in a covalent molecule is called covalency of the atom.	1	1
3	$\text{NaHCO}_3$	1	1
4	No insoluble or sparingly soluble salt is formed by the reaction.	1	1
5	Acetic acid solution will have higher pH. Acetic acid is a weak acid and dissociates less to release lower $\text{H}^+$ concentration.	1+1	2
6	Diagram and Labelling	1+1	2
7	Mercury will be extracted. Since Zinc is more reaction than mercury displacement takes place. There is no reaction with oxides of more reactive magnesium and aluminium.	1+1	2
8	Bleaching powder has bleaching action on linen and cotton clothes. When washed with water sterilized with bleaching powder, the colour shades of the clothes get decreased.	2	2
9	For the triad, Atomic Mass of B = $\frac{\text{Atomic mass of A} + \text{Atomic mass of C}}{2}$ or $23 \times 2 = 7 + x$ $x = 23 \times 2 - 7$ $= 46 - 7$ $= 39$ Yes, the triad is a part of Newland's octane (upto Atomic mass 40).	2	2
10	Definition, Example & identification.	1+1+1	3
11	Definition, respective compositions.	1+1+1	3

**SCIENCE (CHEMISTRY)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

12.	<p>(i) <math>\text{CH}_3\text{-CH=CH}_2</math></p> <p style="text-align: center;">Propene</p> <p>(ii) <math>\begin{array}{c} \text{CH}_2 \\ \diagup \quad \diagdown \\ \text{CH}_2\text{---CH}_2 \end{array}</math></p> <p style="text-align: center;">Cyclopropane</p> <p>Cyclopropane can't be a homologue of the alkene series as it is saturated.</p> <p>The two isomers can be distinguished by carrying out an addition reaction, like addition of bromine.</p> <p>Reaction used like <math>\text{CH}_3\text{-CH=CH}_2 + \text{Br}_2 \longrightarrow \begin{array}{c} \text{CH}_3\text{-CH-CH}_2 \\   \quad   \\ \text{Br} \quad \text{Br} \end{array}</math></p>	2+1+2	5
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**SCIENCE (PHYSICS)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

Sl. No.	Text	Mark for each point	Total Marks
13	Because it can be easily converted into light, heat and mechanical energies for using in homes, schools, hospitals, etc.	1	1
14	North poles.	1	1
15	The brushes are connected to the split rings for supply electric current to the coil.	1	1
16		1	1
17	Current consumed by an electric heater is much more than electric bulb. As the heat produced in any conductor is $I^2Rt$ , therefore heat produced in the wire of electric heater is much more than electric bulb. Hence in order to lower the value of heat produced in the connected wire of the electric heater is resistance is lowered by making the wire thicker.	2	2
18	In a glass slab, the opposite refracting surfaces are parallel to each other. In this case, the composite light is splitted into its constituent colours when refraction occurs through the first surface. When the rays are refracted through the second surface the rays emerge without any diviation from the indient ray.	2	2
19	Any two disadvantages.	2	2
20	Definition. $1.39 \text{ kJ/m}^2/\text{s}$	1 1	2
21	$\frac{R_1}{R_2} = \frac{1}{2} \therefore R_1 = 2R_2$ If $R_1$ and $R_2$ are connected in parallel, then $R = \frac{R_1 R_2}{R_1 + R_2}$ , or $8 = \frac{R \times 2R_1}{R_1 + 2R_1} = \frac{2R_1^2}{3R_1} = \frac{2R_1}{3}$ $\therefore R_1 = \frac{3}{2} \times 8 = 12\Omega$ and $R_2 = 2 \times 12 = 24\Omega$	1  1  1	3



**SCIENCE (PHYSICS)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

22	(i) It can easily change the strength of magnetic field. (ii) Direction of magnetic field can be reversed. (iii) I can be turned on and off.	1 1 1	3 3
23	$u = 10\text{cm}$ . $m = -3$ (for real image)	1	
	$m = -\frac{v}{u}$ or $-3 = -\frac{v}{(-10)} \therefore v = -30\text{ cm}$ . By the relation, $\frac{1}{f} = \frac{2}{R} = \frac{1}{v} + \frac{1}{u}$ or $= \frac{2}{R} = \frac{1}{-30} + \frac{1}{-10} = -\frac{4}{30}$ $\therefore R = -\frac{30}{4} \times 2 = -15\text{ cm}$ .	1 1	5
24	Diagram of A.C. generator	1	
	Construction	4	

**SCIENCE (BIOLOGY)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

Sl. No.	Text	Mark for each point	Total Marks		
25	$6\text{CO}_2 + 12\text{H}_2\text{O} \rightleftharpoons \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O} + 6\text{O}_2$ <div style="display: flex; justify-content: space-around; font-size: small;"><div>Carbondioxide</div><div>Water</div><div>Carbohydrate</div><div>Water</div><div>Oxygen</div></div>	1	1		
26	When the apical bud at the apex of the shoot suppresses the development of lateral buds into branches, the phenomenon is called apical dominance.	1	1		
27	The thin layer of ozone around the atmosphere that prevents entry of harmful UV rays in earth's atmosphere is called ozone shield.	1	1		
28	CNG is considered a better fuel because it burns more efficiently, cheaper and its use has greatly reduced vehicular pollution.	1	1		
29	<ol style="list-style-type: none"><li>1. It increases heart activity.</li><li>2. It improves the power and prolongs the action of muscles and also increases the rate and depth of breathing to prepare the body for flight or any other related activities.</li></ol>	1+1	2		
30	<ol style="list-style-type: none"><li>i) It is helpful in preventing the mixing of oxygenated and deoxygenated blood.</li><li>ii) It gives a sufficient supply of oxygenated blood in birds and mammals that have high energy needs as they constantly use energy to maintain their body temperature.</li></ol>	1+1	2		
31	Draw the diagram of a neuron and label it.	2	2		
32	Seed growth or germination commences by water entering the seed through the micropyle and the testa absorb water. The testa splits and radicle emerges.	2	2		
33	<table style="width: 100%;"><tr><td style="width: 50%; vertical-align: top;"><b>Social forestry</b><ol style="list-style-type: none"><li>1. It is plantation of trees in common village lands.</li><li>2. This provides firewood, fodder etc. thereby reducing pressure on existing forests.</li></ol></td><td style="width: 50%; vertical-align: top;"><b>Agro forestry</b><ol style="list-style-type: none"><li>1. It is plantation of trees over agricultural lands.</li><li>2. This combines the plantation of trees and other woody perenial plants in association with agricultural crops.</li></ol></td></tr></table>	<b>Social forestry</b> <ol style="list-style-type: none"><li>1. It is plantation of trees in common village lands.</li><li>2. This provides firewood, fodder etc. thereby reducing pressure on existing forests.</li></ol>	<b>Agro forestry</b> <ol style="list-style-type: none"><li>1. It is plantation of trees over agricultural lands.</li><li>2. This combines the plantation of trees and other woody perenial plants in association with agricultural crops.</li></ol>	1+1	2
<b>Social forestry</b> <ol style="list-style-type: none"><li>1. It is plantation of trees in common village lands.</li><li>2. This provides firewood, fodder etc. thereby reducing pressure on existing forests.</li></ol>	<b>Agro forestry</b> <ol style="list-style-type: none"><li>1. It is plantation of trees over agricultural lands.</li><li>2. This combines the plantation of trees and other woody perenial plants in association with agricultural crops.</li></ol>				

**SCIENCE (BIOLOGY)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

Sl. No.	Text	Mark for each point	Total Marks
34	<p>(i) This is because changes in the non-reproductive tissues cannot be passed on to the DNA of the germ cells.</p> <p>(ii) So the removal of the tails cannot changes the genes of the germ cells of the mice.</p> <p>(iii) This reveals that simple or mild morphological characteristic changes only affects the body form and do not affect the germ cells.</p>	1+1+1	3
35	<p>(i) The forest floor absorbs most of the rainwater by slow down the surface run off.</p> <p>(ii) Such water comes out as springs.</p> <p>(iii) About 50 - 80% of the water vapour in the air above tropical forests comes from transpiration by plants and helps in bringing rains.</p>	1+1+1	3
36	<p>Any three of the following :</p> <p>(i) The inhabitants of the nearby area are to be displaced as the water level raises due to construction of the dam.</p> <p>(ii) There is loss of forests, plants and animals.</p> <p>(iii) There are changes in fisheries and the breeding grounds of fishes.</p> <p>(iv) Siltation and sedimentation of reservoirs occurs.</p> <p>(v) Lost of non-forest land occurs.</p> <p>(vi) Stagnation and water logging near the reservoir.</p> <p>(vii) Increase in vector-borne diseases due to breeding of vectors.</p> <p>(viii) Microclimatic change.</p>	1+1+1	3

**SCIENCE (BIOLOGY)**  
**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

Sl. No.	Text		Mark for each point	Total Marks
37	<p><b>Asexual reproduction</b></p> <ol style="list-style-type: none"> <li>1. Asexual reproduction does not involve formation or fusion of gametes.</li> <li>2. The offsprings formed by asexual reproduction are genetically identical to the parent and are referred to as clones.</li> <li>3. It is simple and rapid process.</li> <li>4. It involves only mitosis.</li> <li>5. It is always uniparental.</li> <li>6. It is common among single celled organisms such as plants, animals etc. having relatively simple organisation.</li> </ol>	<p><b>Sexual reproduction</b></p> <ol style="list-style-type: none"> <li>1. Sexual reproduction involves formation and fusion of gametes.</li> <li>2. The offsprings are not identical to their parents or amongst themselves.</li> <li>3. It is an elaborate, complex and slow process.</li> <li>4. It involves both mitosis and meiosis</li> <li>5. It is usually biparental.</li> <li>6. It is common in higher animals and in higher plants specially with higher grade of organisation.</li> </ol>	1+1+1	3



Time: Three hours

**Contd.**

4. What steps would you take up to solve the problems of jute industry ? 2  
 তাঁদের সমস্যাগুলি সমাধান করার জন্য আপনি কী পদক্ষেপ নেবেন ?  
 লীমোন ইন্দুগি অরুণ রাফমশিং কোকহনবা নহাক্সা করম-করম্বা খোঙথাং লৌখৎকদগে ?
5. 'Manipur imports large quantity of fish from other states of India.' Suggest two measures that would help reduce the import of fish. 2  
 'মণিপুর ভারতের অন্যান্য রাজ্য থেকে মাছের বড় পরিমাণ আমদানি করে।' দুটি পদক্ষেপ 제안 করুন যা মাছের আমদানি কমাতে সাহায্য করবে।  
 'ভারতের অন্যান্য রাজ্য থেকে মাছের বড় পরিমাণ আমদানি করে।' দুটি পদক্ষেপ 제안 করুন যা মাছের আমদানি কমাতে সাহায্য করবে।
6. Draw a full page outline map of India, mark and label therein the following : 1+1=2  
 ভারতের একটি পূর্ণ পৃষ্ঠা আঁকুন এবং নিচের বিষয়গুলি চিহ্নিত করে লেবেল দিন :  
 লমায় থানা ভারতের ম্যাপ অর্থাৎ একটি অঙ্গুষ্ঠ মাপের খাম্বা পীরিবসিগী লৈফম উৎলগা মমিং থারকউ :

### Sundarbans

সুন্দরবন  
 সুন্দরবন

Answer Question Nos. 7 to 10 in about 50 words each.

7. Write a brief account of the three different land resources of India. 3  
 ভারতের তিনটি ভিন্ন ভিন্ন ভূমির সম্পদের সংক্ষেপে বিবরণ দিন।  
 ভারতের তিনটি ভিন্ন ভিন্ন ভূমির সম্পদের সংক্ষেপে বিবরণ দিন।
8. Explain the importance of minerals in the economic development of a country by giving three points.  
 একটি দেশের অর্থনৈতিক উন্নয়নে খনিজ সম্পদের গুরুত্ব তিনটি বিন্দু দিয়ে ব্যাখ্যা করুন।  
 একটি দেশের অর্থনৈতিক উন্নয়নে খনিজ সম্পদের গুরুত্ব তিনটি বিন্দু দিয়ে ব্যাখ্যা করুন।
9. How do big dams raise a number of controversies in the country ? Explain by giving three points.  
 বড় বাঁধের নির্মাণ দেশে কীভাবে বিতর্ক তৈরি করে? তিনটি বিন্দু দিয়ে ব্যাখ্যা করুন।  
 বড় বাঁধের নির্মাণ দেশে কীভাবে বিতর্ক তৈরি করে? তিনটি বিন্দু দিয়ে ব্যাখ্যা করুন।



10. Explain any three geographical factors that have led to the localisation of paper industry in West Bengal. 3

মূল্যে চাষাণ্ডনৰ মণ্ডল চন্ডৰলগণ্ডাৰ মায়-লগুট তঁৰনতমতৰিচ স্কললগণ্ডাৰ স্কলম লুগলস্কল  
লগলগলগল লগলগল ॥

ৰেষ্ট বেঙ্গলদা চেগী ইন্দুষ্টি পাবশম্মা লৈহল্লক্লিবা মহৌশাগী মরম অহ্মদং শন্দোক্ল তাকু।

11. Compare the geographical conditions necessary for the cultivation of cotton with those of jute.

তলগি লগলগল স্কললগল লগলগল লগলগল/লগলগল লগলগল লগলগল লগলগল  
লগলগল ॥

লগি থাবগী দরকার ওইবা মহৌ গী ফিভ মগিগা লীমোনগী মহৌশাগী ফিভমশংদুগা চাংদমৌ।

Or/নংত্রগা/লগলগল

Explain the chief characteristics of plantation farming with special reference to tea cultivation in India.

লগলগলগল তঁল্লগল লগলগল লগলগল-লগলগল লগলগল লগলগল লগলগল লগলগল  
লগলগল লগলগল ॥

প্লান্টেশন লৌউগী মরুওইবা শকওং-শদাশিং অখল্লনা ভারত্তা চামনা থাবগী মতাংদা শন্দোক্ল তাকউ।

## SECTION – B

### (HISTORY)

Marks - 27

Answer Question Nos. 12 to 15 in about 50 words each.

12. Why did the Revolt of 1848 in Germany end in failure. 3

লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল

জমনিদা খৃষ্ট কুমশিং ১৮৪৮গালিলহৌ করিগীদমক মায় পাকখিদবনো ?

13. After 1815 liberal nationalists went underground. Analyse this statement. 3

লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল লগলগল  
লগলগল ॥ লগল লগল লগল ॥

খৃষ্টগী কুমশিং ১৮১৫গী মতুংদা য়েংখীনবা লৈতবা মজাতিবু নুংশিজবশিংনা মীরোং ওইখি। লগল  
লগল লগল ॥

14. After the first World War the economy of Germany almost collapsed. Analyse this statement. 3

[illegible]

পৃথিবীগী অহানবা লাঞ্জাও মতুংদা জমনিগী শেল-থুমগী ফিভম খম থেংনা লৈখা তাখি। ব্রাফম অসি নৈনৌ।

15. How did the Second World War bring beneficial changes to the Manipurites.

ਸ਼ਾਸ਼ਿਤੀਆਂ ਘਟਨਾ ਦੇ ਫਲਸਰੂਪ ਸ਼ਾਸ਼ਿਤੀਆਂ ਅਨੁਸਾਰ ਸ਼ਾਸ਼ਿਤੀਆਂ ?

পৃথিবীগী অনিশ্চয়তা লাঞ্ছনা মণিপুরদা করম্বা কান্নবা পুরকথিবগে ?

16. On the outline map of India draw as answer to Question No. 6 (of Geography portion), locate the places with name : Where 1+1=2

(a) Establishment of cotton mill in 1854.

(b) Establishment of Empress cotton Mill in 1887 by Jamshedji Tata.

[illegible]

ක) සෞම්‍යතා සංගමය ප්‍රදානය කරනු ලබන සේවය සඳහා ස්තූතියි.

୩) ଉତ୍ପାଦନାର ସମସ୍ୟା ଦୃଷ୍ଟିରୁ ଏ ଅଞ୍ଚଳରେ କେଉଁ କେଉଁ ପ୍ରକାରର ଆହାରୀୟ ଉତ୍ପାଦନ ହେବାକୁ  
ଯୋଗ୍ୟ ।

ব্রাহ্ম নং ৬কী (of Geography portion) পাউখুম ওইনা য়েক্সবা ভারতকী মেপ অদুদা, মখাগীশিং  
অসি থোকখিবা মফমশিংদু মমিংগা কোন্ননা উৎলু :

ক) খৃষ্টগী কুমশিং ১৮৬৫দা লিংখৎখিবা লশিং ফিরোল শাবগী মিল।

খ) খুষ্টগী কুমশিং ১৮৮৭দা জমসেদজজী টাটানা লিংখৎখিবা এমপ্রেস কোটন মিল।

*Answer Question Nos. 17 - 19 in about 30 words each.*

17. State the conditions of industrial labourers of England after 1833.

ಪ್ರಭೀಂದ್ರನಾಥ್ ಫುಲಗಿರಿಯ ೨೨೬೬ನಾಂ ಸ್ಥಾನಾಪನಾ ಉಪನಾಯಕಾ ಪ್ರಭೀಂದ್ರನಾಥ್ ಪಾಂಡುರಪ್ರಭೀಂದ್ರನಾಥ್ ಗಿರೀಶ್‌ಗಿರಿಯಾಂ  
 ಲಿಂಗಾ ಸ್ವಾಮಿ ||

খৃষ্টগী কুমারিং ১৮৩৩গী মতুংদা ওইরকপা ব্টিশ ইন্দুষ্টিগী শীলীশিংগী ফিভম হায়যু।

18. After the enforcement of the American Constitution in 1787, the American Newspaper became extremely partisan. Explain this statement. 2

ছাত্রোত্তরঃ আমেরিকাৰ সংবিধানৰ কাৰ্য্যকৰী হোৱাৰ পাছত আমেৰিকাৰ পত্ৰিকা সমূহৰ অংশীদাৰী হৈছে-সংবাদী হৈছে আৰু তেওঁলোকৰ লক্ষ্য হৈছে আমেৰিকাৰ জনসাধাৰণক সঁচা তথ্য দিয়া।

খৃষ্টাব্দী কুমাৰি ১৭৮৭ত আমেৰিকাৰ কনষ্টিচ্যুচন চৰণত হোৱাৰ মতে আমেৰিকাৰ পাৰ্টি-চেৰিঙ ফিৰম অমা নতুনগ ফিৰম অমদা কা হেনা লুপশীনবা হোঁখি। ৰাফম অসি শন্দোকা ইয়ু।

19. What did the British colonial administration order to the press in August 1942 ? 2

ছাত্রোত্তরঃ আমেৰিকাৰ সংবিধানৰ কাৰ্য্যকৰী হোৱাৰ পাছত আমেৰিকাৰ পত্ৰিকা সমূহৰ অংশীদাৰী হৈছে-সংবাদী হৈছে আৰু তেওঁলোকৰ লক্ষ্য হৈছে আমেৰিকাৰ জনসাধাৰণক সঁচা তথ্য দিয়া।

খৃষ্টাব্দী কুমাৰি ১৯৪২ত আগষ্ট খাদা ব্ৰিটিশ লোইৰম লঙোকা প্ৰেসতা কৰম্বা য়াথং পীৰম্বগে ?

Answer Question Nos. 20 and 21 in a sentence each.

20. State the objective of General Dyer firing against the crowd at Jallianwala Bagh, Amritsar on 13th April, 1919. 1

ছাত্রোত্তরঃ আমেৰিকাৰ সংবিধানৰ কাৰ্য্যকৰী হোৱাৰ পাছত আমেৰিকাৰ পত্ৰিকা সমূহৰ অংশীদাৰী হৈছে-সংবাদী হৈছে আৰু তেওঁলোকৰ লক্ষ্য হৈছে আমেৰিকাৰ জনসাধাৰণক সঁচা তথ্য দিয়া।

খৃষ্টাব্দী কুমাৰি ১৯১৯ত এপ্ৰিলত তাং ১৩ত অম্ৰিটসৰগী জাল্লিয়ানৱালা বাগত তিল্লিবা মীয়ামদা নোংমৈ কাপশিনহনবদু জেনেৰেল দায়ৰগী কৰম্বা অপাম্বা লৈবগীনো ?

21. How did the demand of cotton yarn increase alarmingly after the invention of Flying Shuttle ? 1

“উত্থাপন” (ফ্লাইং শটল) আৱিষ্কাৰৰ পাছত আমেৰিকাৰ পত্ৰিকা সমূহৰ অংশীদাৰী হৈছে-সংবাদী হৈছে আৰু তেওঁলোকৰ লক্ষ্য হৈছে আমেৰিকাৰ জনসাধাৰণক সঁচা তথ্য দিয়া।

“ফ্লাইং শটল” (পাণ্ডেম) পুথোৱকপদগী কৰম্বা লশিংগী লং কা অমা হেনা দৰকাৰ লাকখি ?

Answer Question No. 22 in about 120 words each.

22. how did the First World War create a new economic and political situation in India ? 5

আৱিষ্কাৰৰ পাছত আমেৰিকাৰ পত্ৰিকা সমূহৰ অংশীদাৰী হৈছে-সংবাদী হৈছে আৰু তেওঁলোকৰ লক্ষ্য হৈছে আমেৰিকাৰ জনসাধাৰণক সঁচা তথ্য দিয়া।

পৃথিৱীৰ অহানবা লাঞ্জাওনা কৰম্বা ভাৰতকী শেল-থুম অমদি ৰাজনীতিগী ওঁইবা ফিভমশিং ওঁইহল্লকখি?

Or/উচ্চশিক্ষা/নংত্রগা

"After 6th April, 1930 the Salt Satyagraha spread all over India." Explain the statement. 5

ছাত্রোক্তান্তে দ্বাদশমীতে ১৯৩০খ্রিঃ অব্দে ৬ই এপ্রিলের পরে সারা ভারত জুড়েই সোণালী সত্যাগ্রহের আন্দোলন ছড়িয়ে পড়েছিল।

খৃষ্টাব্দে ১৯৩০খ্রিঃ এপ্রিলের ৬তম তারিখে মতুংদা থুমগী সত্যাগ্রহ ভারতের মধ্য শীতলগুনা শাখা দাক্ষিণাত্যে। রাফম অসি শব্দেব্রা ইয়ু।

## SECTION – C

(CIVICS)

MARKS – 13

Answer Question Nos. 23 to 25 in a sentence each.

23. Why did the British play the policy of 'divide and rule' over the Hindus and Muslims ? 1

ব্রিটিশ সরকারের ভারতের উপর 'বিভাজন ও শাসন' নীতির কারণ কী? 'বিভাজন ও শাসন' নীতির কারণ কী?

হিন্দু অমসুং মুসলিমশিংগী মরজা বৃটিশশিংনা করিগীদমক 'খাইদোকউ অমসুং লৈঙাকউ' হায়বা পোলিসি শান্নরল্লিবনো ?

24. Identify one factor that may lead to communalism. 1

সাম্প্রদায়িকতার কারণ কী? একটি কারণ চিহ্নিত করুন।

কমুনেলিজমদা লমজীংবা যাবা মরম অমা মাক তাকউ।

25. Assess the reason responsible for higher accountability and legitimacy of democracy. 1

সংসদীয় শাসনের কারণে দায়িত্বশীলতা ও বৈধতা বৃদ্ধি পায়।

ডিমোক্রেসিনা হেন্না দায়িত্ব লৈবা অমসুং আইনগী যাবা ওইবগী মরম নৈনৌ।

Answer Questio No. 26 in about 30 words.

26. Analyse in two points whether the influence of pressure groups and social movements on politics is healthy or not. 1+1=2

প্রেশার গ্রুপস ও সোশ্যাল মুভমেন্টসের রাজনীতিতে প্রভাবের স্বাস্থ্যকর বা অস্বাস্থ্যকর তা বিশ্লেষণ করুন।

প্রেশার গ্রুপশিং অমসুং সোসিয়েল মুভমেন্টশিংনা রাজনীতিদা পীবা ইথিল অসি অফবা নংত্রগা ফণ্ডবা ওইব্রা হাইবদু মরম অনিদা নৈনৌ।

*Answer Question No. 27 in about 50 words.*

27. Show the way in which a challenge in democracy carry with it an opportunity for progress. 3

શ્રીફલ્ગુનાંભિક ગીચાટ (મંત્રા) આદ્ય યજ્ઞસ રાજાનિ નાથ મહારાજાની કૃપાસર  
આદ્ય આદ્યા નેકર કૃષ્ણ ||

দিমোকেয়সিদা শীংনবা (চেলেক্স) অমনা করস্বা লস্বীদা হেন্না চাওখৎনবগী খুদোংচাবা অমা ওইবগে  
হায়বদু উৎলু।

*Answer Question Nos. 28 in about 100 words.*

28. Explain clearly 'horizontal power sharing' and 'Vertical power sharing' in a democratic government. 2+3=5

[illegible]

ডিমোক্রেসিগী সরকার অমদা ‘মঐদা শক্তি য়েন্নবা’ অমদুং ময়ুংদা শক্তি য়েন্নবা’ হায়বসি করিনো ? শন্দোক্লা তাকউ।

**SECTION – D**  
**(ECONOMICS)**

**Marks – 13**

**Answer Questin Nos. 29 to 31 in a sentence each.**

29. Identify the country where paper money was first used. 1

ਸਾਧੀ ਨਾਨਕ ਸਾਧੇ ਨੇਯਤ ਨੀਟੀਯਤਦੀਤ ਚੰਚਲਾ ਘਰੂ ਜਾਨਾ ਯਾਤਾ ॥

চেগী শেল ইহান হান্না শিজীনখিবা লৈবাক অদু মশক তাকউ।

30. Why do the public accept paper money as a means of payment ? 1

ଉତ୍ତରୀନୀ ଲାଗିଯେଇଟ ସଂସାର ଗର୍ବଚାରି ମାନୁଛନ୍ତି-ଆମେ କିଏ ? ଲୋକେ କହନ୍ତି ।

করিগী মীয়ান্না চেগী শেলবু পীথোক-পীশিন তৌবা য়ানরিবনো ? মরম অমা হায়য়ু।

31. Which sector contributed the most in the GDP of India in the beginning?

ନିର୍ଦ୍ଦେଶକଙ୍କୁ କେଉଁଠି ଯିବାକୁ କୁହାଯାଉଛି ?

হৌরকপদা ইন্দিয়াদা করম্বা সেত্তরনা স্বাইদগী শেত্তোক লৈবগে ?

Answer Question Nos. 32 in about 30 words.

32. Why are we so concerned for dominance of agriculture is occupational distribution in India ? Give two points. 2

කළකිරින ගිවිසගිවිසාණි සුදුසු තේ-ගිවිසුදු සුදුසු ගුණගුණි ගුණගුණ ගුණගුණ ගුණ  
 ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ ගුණගුණ

ইন্দিয়াদা শিনফমশিংগী মনুংদা লৌউ-শিংউবনা মপুং ওইবসিদা ঐখোয়না অসুক যান্না পুন্নিং  
লাঙতকুরিবা করিগীনো ? মরম অনি পীযু।

*Answer Question No. 33 in about 50 words.*

33. What are the activities of the World Bank towards economic development of its member countries ? Give three points. 3

[illegible]

ব্রান্ড বেঙ্কনা মসিগী মেন্বর ওইবা লৈবাকশিংগী শেন্নীংলোন্দা চাওখৎনবা তৌবা থবকশিংদু  
করিনো ? অহুমদং হায়য়।

*Answer Question No. 34 in about 100 words.*

34. Explain the indicators of development in an economy giving five points. 5

ತೆರೆಯ ಉಪಾಂಗಿ ಗುಣಪುಟ ಸಂಪಾದನಾ ಕೆಲಸದ ಸುಗಮ ಸುಖ ಗುಣಪುಟ ಸಂಪಾದನಾ ||

লৈবাক অমগী শেন্মীং চাওখংপা খঙহনবা মরম মঙা শন্দোক্কা তাকউ।

**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (GEOGRAPHY)**

Sl. No.	Text	Mark for each point	Total Marks
1	Man-made disasters are caused by human error and negligence.	1	1
2	Because the emission of carbon dioxide into the atmosphere is quite low while using it.	1	1
3	a) Even solids like iron ore can be transported by pipelines after converting them into slurry. b) It is an inexpensive mode of transport. c) It rules out transshipment losses or delays. (any two)	1×2	2
4	a) it should be made mandatory for various mills to use jute products in packing. b) National Jute policy should be followed strictly by improving quality and making a variety of products.	1 1	2
5	Import of fish can be reduced : a) by harnessing the vast fisheries of the state using advanced techniques of fish culture b) by mass-production of indigenous fishes like Pengba, Khabak, Ngaton etc.	1 1	2
6	a) Full page outline map of India. b) Marking and labelling of Sundarbans.	1	1
7	Mountains, plateaus and plains are the three different land resources of India. (a) Mountains constitute about 30 percent of the land of the country and ensure peremial flow of some rivers and provide facility for tourism. (b) Plateaus account for 27 percent of the country's total area and possess rich minerals, fossil fuels and forests. (c) The remaining 43 percent is of plain which provides facilities for agriculture and industry.	1 1 1	3
8	a) Almost everything we use from a tiny pin to a towering building are made from minerals. b) All the vehicles with which we travel, the implements and machinery that we use with are made from minerals. c) We use minerals even for making our food, medicines etc. Thus, minerals provide the base for industrial development of a country.	1 1 1	3



**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (GEOGRAPHY)**

Sl. No.	Text	Mark for each point	Total Marks
9.	a) Damming of rivers affect the natural flow of rivers resulting in sedimentation and rockier stream beds. b) It makes the aquatic fauna difficult to migrate for spawning. c) Large number of people have been displaced as the agricultural fields are submerged by the impounded water of the dam. d) Large dams have been the cause of new social movements like Tehri Dam Andolan, the Narmada Bachao Andolan etc. (Any three)	1×3	3
10	a) Bamboo from Assam and Sundarban delta. b) Grass from Bihar. c) Coal from jharia and Raniganj. d) Clean water from Hugli river. e) Large market and cheap transport. (any three)	1×3	3
11	a) Cotton requires high temperature during flowering stage whereas jute requires uniformly high temperature throughout the year. b) Cotton requires light rainfall and clear sky during the flowering stage whereas jute requires uniformly high rainfall throughout the year. c) Cotton requires 210 frost free days and cooler weather at harvest time whereas jute requires warm and humid weather throughout the year. d) Cotton grows best in the black cotton soil whereas jute grows well on well drained fertile soils with annual flooding. e) Cotton is mainly confined to the Deccan plateau whereas jute grows mainly in the flood plains of West Bengal, Bihar, Assam and Orissa. <p style="text-align: center;"><b>OR</b></p> a) Plantation farming is characterized by a single crop on a large area, huge capital investment, scientific techniques of cultivation and cheap labour. b) It aims at high yield, high quality production and large output, most of which is exported. c) The final products have to be standardized to meet the world demand and specification. d) In India, tea is mainly cultivated in Assam, West Bengal, Nilgiri and Cardamon hills, Himachal Pradesh, Uttarakhand etc. e) Assam is the largest producer of tea and contributes more than half of the total production of tea in the country	1×5	5

**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (HISTORY)**

Sl. No.	Text	Mark for each point	Total Marks
12	Any three or relevant points a) Prussia King William IV refused the crown of Germany b) Prussia King William IV joined other European monarchs c) Aristocracy and the military opposed to the demands of the workers and artists d) The Parliament lost the support of the working class e) The army was called and the Parliament was disbanded.	1+1+1	3
13	Any three or relevant points a) After the Battle of Waterloo, 1815 the victorious European powers aimed at the destruction of what French Revolution and Napoleon stood for b) New states based on absolutist political system were created c) New conservative regime was against freedom and equality d) Liberalism was suppressed e) The absolutist rule introduced strong censorship laws f) The liberal-nationalists were concerned about the freedom of the press g) Liberal nationalists feared of the repression	1+1+1	3
14	a) She had to pay fifty million pounds to the Allies as preliminary reparation amount by May, 1921 b) She had to manage for doing so by taking loan from the USA c) The German economy was almost collapsed in managing to pay the reparation amount	1+1+1	3
15	Any three points a) Manipur was exposed to the outside world b) Soldiers from foreign lands and other parts of India came to Manipur c) Manipuri became familiar with modern military weapons and technology d) Development of a network of roads and communication e) Growth of trade and commerce f) Vision of the people was greatly widened g) Students studying outside Manipur greatly increased h) In the hills the number of Christian missionary schools greatly increased	1+1+1	3

Sl. No.	Text	Mark for each point	Total Marks
16	a) Bombay (Numbai) b) Nagpur	1+1	2
17	Any two or relevant point : a) Forbidden to hire children less than 9 years b) Less than 18 years of age was restricted to 9 hours a day c) Women and children were excluded from mine labour d) Better hours and safety devices were required e) Govt. Inspectors provided to ensure that the regulations were/followed f) Wage-earners were given the right to vote in 1867	1+1	2
18	1 point from each section  Beore 1787 American newspapers was not afraid to engage in intelligent and forceful debate on public issues.  After 1787 American newspaper followed the principles & ideas of either John Adam's Federalists or the Jeffersonian Republicans American Government was using the print media as a propaganda tool.	1+1	2
19	Any two or relevant points a) registration of correspondents b) limitation on the messages regarding civil disturbances c) prohibition of news regarding acts of sabotage d) limitation on the headlines and space given to news on disturbances e) compulsory press advice f) arbitrary censorship	1	1
20	- to create a feeling of terror and awe in the minds of the Satyagrahis.	1	1
21	- Flying Shuttle sped up weaving	1	1
22	Any five or relevant points a) There was ahuge increase in the defence expenditure b) War loans and increasing taxes c) Custom duties were raised d) The income tax was introduced e) Prices was increased f) Extreme hardship common people g) Anger in the rural area h) Forced recruitment army i) Crops failures in many parts of India j) Famines and epidemic Millions of people died	1+1+1 +1+1	5

**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (HISTORY)**

Sl. No.	Text	Mark for each point	Total Marks
	<p style="text-align: center;"><b>(OR)</b></p> <p>Any five or relevant points</p> <ul style="list-style-type: none"><li>a) C. Rajagopalchari led the movement in Tamil Nadu (Arrested 30<sup>th</sup> April 1930)</li><li>b) A group of satyagrahis march from Sylhet to Noakhali</li><li>c) Khan Abdul Gaffar Khan led the movement in Peshawar in North West Frontier Province</li><li>d) Great protest in Bombay</li><li>e) Fierce protest in Sholapur</li><li>f) At Dharasana Salt Works 2000 volunteers marched to the factory which was cordoned off by the police</li><li>g) In Gujarat, the movement was vigorously launched in Kheda district and Bardoli of Surat district</li></ul> <p>In Uttar Pradesh, the movement was associated with no-revenue and no tax campaign</p>		

**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (CIVIC)**

Sl. No.	Text	Mark for each point	Total Marks
23	To reduce the strength of unity between the Hindus and Muslims for easy domination.  <b>OR</b> The unity between the Hindus and Muslims was a threat to their authority.	1	1
24	Any one of the following : i) When beliefs of one religion are presented as superior to those of others, ii) When the demands of one religions group are formed in opposition to those of another group, iii) When state power is used to establish domination of one religious group over the rest.	1	1
25	Because in democracy people choose their rulers and have control over the rulers.	1	1
26	Any two points : A democratic government must look after the interests of all --- Different views and influences from different groups may lead to a balance of power on balance pressure groups and social movements have deepened democracy. Therefore, their influence is rather healthy	1+1	2
27	Democracy has so many challenges – Whenever a challenge is overcome a new challenge comes up ---- Once a challenge is overcome then the government goes up to a higher level than before because overcoming a challenge is the ability of the government concerned ---- Thus a challenge is an opportunity for progress.	1+1+1	3
28	When power is shared among the three organs of government that is the legislature, executive and judiciary at the same level it is called horizontal distribution of power. Each organ checks the others - is also called a system of checks and balance. In a federation power can be shared among governments at different levels. Power is distributed between the national government and state governments —The same principle can be extended to the levels of governments lower than the state governments such as the municipality and the Panchayats. This is known as Vertical power sharing. --- Power may also be shared among different Social, religious and linguistic groups also. ---- Power is also shared among political parties, pressure groups and social movements etc.	2+3	5

**H.S.L.C. EXAMINATION KEY/OUTLINE ANSWER AND  
MRKING SCHEME  
SOCIAL SCIENCE (ECONOMICS)**

Sl. No.	Text	Mark for each point	Total Marks
29	China used paper money for the first time.	1	1
30	Any one of the following : a) The government has taken steps to ensure that the paper money is accepted by the people. b) The government declares the paper money as legal tender. c) In India paper notes are guaranteed by the Reserve Bank of India.	1	1
31	In the beginning of Indian economy, primary sector contributed the most to the GDP.	1	1
32	Any two of the following : a) Agriculture is still the mainstay of Indian economy though its share in the GDP has declined. b) It continues to provide employment to more than 52 p.c. of the total workforce. c) We are worry that productivity per worker is low but a large proportion of workers is found in agriculture.	1+1	2
33	Any three of the following : a) The World Bank is designed to finance projects that enhance economic development of member countries. b) It is the largest source of financial assistance to developing countries. c) It provides technical assistance and policy advice and supervision in the implementation of free market reforms. d) With the help I.M.F. and W.T.O., it plays a central role in over seeing economic policy and reforming public institution in developing countries.	1×3	3
34	Five points : 1. Income : Income is an indicator of development and it is through that we can get what we want. If a country has high level of income the country has high per capita income. 2. Infant Mortality Rate : IMR is the chance of dying between birth ad exactly one year of age expressed in terms of death of infants per 1000 live births in a year. 3. Sex ratio : It is number of females per 1000 males, sex ratio is adverse for females. Adverse sex ratio has two main reasons, among others, as neglect of female child and inadequate maternal health care facilities. 4. Expectation of life at birth : It is a comprehensive measure of health of the people. It is the number of years an infant would live if the prevailing pattern of age specific modality rates at the time of birth were to stay the same. 5. Human Development Index : It is a comprehensive measure of human development. It focuses on three measurable dimensions of human development. It is a composite index measuring average achievements in three basic dimensions of human development as health, knowledge and income.	1×3	3







ଗାଡ଼ଜାତି ॥ ଛାନ୍ଦ ଇନ୍ଦ୍ରାଧିପତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି  
 ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି ଗାଡ଼ଜାତି

[illegible]

೧. ಸ್ವಾಭಾವಿಕವಾಗಿ ಉಂಟಾಗುವ ಸಂಪನ್ಮೂಲಗಳ ಪಾಲನೆ ಮತ್ತು ಬಳಕೆ ? ೧

୧. ଏହି ଏକାମ୍ରାସି ଲୋକ-ସମ୍ମାନ ଉପାଦାନର ଉଦ୍ଦେଶ୍ୟ କିପରି ? ୨

ਸ. 'ਸੁਖਗੀਤਘਾਨਾ' ਨੇੜੇ ਸੇਠੀਆਂ ਪੁਸਤਕ ਸ਼ਾਲਾ ਦੇ ਪੁਸਤਕ ਸ਼ਾਲਾ ॥ ੭

ਸ਼. ਜ਼ਿਲ੍ਹਾ ਸਮਿਤ ਦੁਆਰਾ ਕੀਤੇ ਸੇਵਾ ਕਾਰਜਾਂ ? 5

૭૫. શ્રી જીવિ જીવનના સંકટોમાંથી મુક્તિ મેળવવા માટે શું કરવું ?

૭૫. બાળક તોલણ બેઠું ૩ બાળકો નેસલ નેપાલમાં ? ૭

[illegible]

૧૥. ત્રિપુર સંધિના અંગેના બંધનને કારણે, ત્રિપુર સરકારે સંપૂર્ણ રીતે સ્વતંત્રતા આપી છે. ત્રિપુર સરકારે સંપૂર્ણ રીતે સ્વતંત્રતા આપી છે. ત્રિપુર સરકારે સંપૂર્ણ રીતે સ્વતંત્રતા આપી છે. ૯

[illegible]

॥ ॐ नमो भगवते वासुदेवाय ॥

೨|| ಉತ್ತರಾಧಿಕಾರಿಗಳು ಹಾಗೂ ತಮಿಳುನಾಡು ಸರ್ಕಾರದ ಸಹಾಯದಿಂದ ತಮಿಳುನಾಡು ಸರ್ಕಾರ ? ೩



९

உய்யுமா

2

2

5

5

5

2

**Contd.**

૭૦॥ ફાંદા રેડ મીંચડીઠાં ઘાંટાં ઘાંટાં ફાંદાં ॥ ૭

ઉઠ્યાંડાં ફાંદાં રેડ રેડ ફાંદાં ઘાંટાં ॥

૭૧॥ 'લેણ' રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ ॥ ૭

૭૨॥ મીંચડીઠાં રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ ॥

ઘાંટાં, ઘાંટાં, ઘાંટાં, ઘાંટાં ॥ ૭

૭૩॥ ફાંદા રેડ મીંચડીઠાં ઘાંટાં ઘાંટાં રેડ રેડ રેડ ॥

- ઘાંટાં ઘાંટાં રેડ રેડ રેડ રેડ રેડ રેડ ॥

### ઘાંટાં - ફાંદાં

(તેજાં)

૭૪॥ રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ ॥ ૭+૭+૭=૨૧

ઘાંટાં ફાંદાં રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ  
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રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ

ઘાંટાં

૭. 'રેડ' રેડ રેડ રેડ રેડ રેડ રેડ રેડ  
રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ  
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ઘાંટાં રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ  
'રેડ' રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ  
રેડ રેડ રેડ રેડ રેડ રેડ રેડ રેડ



- ඉ. 3. “ගුණිකාච්ඡිකප් ග්‍රන්ථයේ ප්‍රථම උපදෙසක් අනුගමනය කර ගන්න.” —  
කප්පය කපා ගන්නා අතර අනුගමනය කර ගන්නා ප්‍රකාරය කුමක්ද? ඉ
- ඉ. 4. ප්‍රකාරයකට අනුව භාවිත කර ගන්නා ප්‍රකාරය ග්‍රන්ථයකින් පිටත ප්‍රකාරය ග්‍රන්ථයකට  
අනුගමනය කර ගන්නා ප්‍රකාරය කුමක්ද? ඉ
- ඉ. 5. ප්‍රකාරයකට අනුව භාවිත කර ගන්නා ප්‍රකාරය ග්‍රන්ථයකින් පිටත ප්‍රකාරය ග්‍රන්ථයකට  
අනුගමනය කර ගන්නා ප්‍රකාරය කුමක්ද? 8





[illegible]

[illegible]

Total number of printed pages – 7

96 RM 23 Csc (N)

2018

**COMPUTER SCIENCE**

Full Marks-80

Pass Marks - 20

Time: Three hours

*Answer all the questions.*

*The figures in the right hand margin indicate full marks for the questions.*

- |     |  |   |
|-----|--|---|
| 1.  | Define table.  | 1 |
| 2.  | What is WWW ?  | 1 |
| 3.  | Write the full form of HREF.                                   | 1 |
| 4.  | Which loop is called a count controlled loop ?                 | 1 |
| 5.  | What is the purpose of using <BODY> tag in HTML ?              | 1 |
| 6.  | Write the HTML code or H <sub>2</sub> SO <sub>4</sub> .        | 1 |
| 7.  | Write the steps to insert a new record in a table.             | 2 |
| 8.  | Name the first web browser. Why Internet Explorer is popular ? | 2 |
| 9.  | Give the basic structure of HTML document.                     | 2 |
| 10. | Write the general form (syntax) of the switch statement in C.  | 2 |

**Contd.**

11. What is the role of the back option in a web browser ? Write the method of viewing the HTML code of the current page in a web browser. 2
12. Explain the working of a Modem. 2
13. Rewrite the following statements by using ternary operator : 2

i (a>b)

```
{  
    if (a>b)  
        printf ("%d",a);  
    else  
        printf ("%d",c);  
}  
else  
{  
    if (b>c)  
        printf ("%d",b);  
    else  
        printf ("%d",c);  
}
```

14. (a) What is protocol ? name the protocols used to download programs. 2
- (b) What is the role of an ISP ? 1
15. (a) Name the header file for the library function `circsr ( )`. What is the operator for bitwise XOR ? 2
- (b) If x is an array of size 10 and p is a pointer and both are Integer type. How you make the pointer p to point to the array x ? 1
16. (a) How do you create a primary key ? 2
- (b) Differentiate between hiding and field and freezing a field. 1

17. (a) Which tag is used to draw a line across the page ? 1  
(b) Differentiate the following :  
i) BACKGROUND and BGCOLOR attributes.  
ii) Hypertext and hyperlink.
18. Write the HTML code to insert an image PIC. JPG in a document by aligning with left margin and the size of the image should be the half of the page. 3
19. (a) Name any two major services provided by internet. 1  
(b) Write the steps to open an e-mail account in <http://www.rediff.com>. 3
20. (a) Give the logical expressions to represent the following conditions:  
i) ch is a lowercase letter. 2  
ii) n is odd or exactly divisible by 7.
- (b) What would be the output of the following program ? 2
- ```
#include<stdio.h>
void main ( )
{
    int p, n = 546;
    while (n!=0)
    {
        p=n%10;
        print ("%3d",p*p);
        n=n / 10;
    }
}
```

21. (a) Define a function  
(b) Write a C program to find the factorial of a positive integer using the recursive function fact ( ). 3
22. (a) Write the use of the following tags : 2  
(i) <LI>  
(ii) <SUP>  
(b) Correct the errors : 2  
(i) <FONT STYLE = "COURIER" SIZE = "10">  
(ii) <BODY BLINK="YELLOW" TEXTCOLOR="RED">
23. (a) Draw the loop control structure for the following : 2  
(i) while loop  
(ii) do-while loop  
(b) Differentiate the following : 2  
(i) Arrays and Structures  
(ii) Call by value and Call by reference
24. (a) What do you mean by the term Surfing ? 1  
(b) Write the uses of Internet. 4



25. Write the HTML code to generate a web page in the format shown below :

A. FOODS

5

III. RICE

IV. FRUITS

- APPLE
- GRAPES
- MANGO

V. MEATS

- b. CHICKEN
- c. PORK
- d. MUTTON

VI. VEGETABLES

B. GAMES

4. INDOOR GAMES

- CHESS
- BADMINTON
- TABLE TENIS

5. OUTDOOR GAMES

- IV. FOOTBALL
- V. CRICKET
- VI. HOCKEY

26. Write the HTML code to generate a web page in the format and style shown below : 5

**!!XYZ SHOPS!!**

1. GENTS

- SHIRTS
- TROUSERS

2. LADIES

- SAREES
- SHOES

FOR MORE INFORMATION [CLICK HERE](#)

Special Notes :

- (a) Title of the page should be 'ONLINE SHOPS'
- (b) Background color of the page should be 'BLUE'.
- (c) The face of the main heading '!!XYZ SHOPS!!' should be 'COURIER' type and 'RED' Color.
- (d) The next 'GENTS' and 'LADIES' should be of bold face type.
- (e) Pages linked with

SHIRTS s SRT.HTM

TROUSERS as TRS.HTM

SAREES as SAR.HTM

SHOES as SHS.HTM

17. Write a C program to sort an array of numbers in ascending order. 5
28. (a) Which character should be at the end of a string ? 1
- (b) Write a C program to copy the contents of a string to a new string and also find the length of the string without using string functions. 4

**SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME**

**SUBJECT & PAPER : COMPUTER SCIENCE (THEORY)**

| Q. No. | Value point/Outline Answer                                                                                                                         | Mark for each point        | Total Marks |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|
| 1.     | A table is a collection of data about a specific topic where each row is a record and each column is a field.                                      | 1                          | 1           |
| 2.     | WWW (World Wide Web) is a series of services that are interconnected through hypertext.                                                            | 1                          | 1           |
| 3.     | HREF – Hypertext Reference                                                                                                                         | 1                          | 1           |
| 4.     | For loop is called a count controlled loop.                                                                                                        | 1                          | 1           |
| 5.     | Th. <BODY> tag is used to add text and graphics for web page.                                                                                      | 1                          | 1           |
| 6.     | H <sub>2</sub> SO <sub>4</sub> – H<sub>2</sub>I<sub>50</sub>S<sub>4</sub>                                                                          | 1                          | 1           |
| 7.     | The steps to insert a new record are :<br>i) Select the record after which we want to insert a new record.<br>ii) Click New Record in Insert Menu. | 1<br>1                     | 2           |
| 8.     | MOSAIC was the first web browser.<br>Internet Explorer is so popular because of its graphical display and easy to use capability.                  | 1<br>1                     | 2           |
| 9.     | Basic structure of HTML document<br><HTML><br><HEAD><br><TITLE> ..... </TITLE><br></HEAD><br><BODY><br>.....<br>.....<br></BODY><br></HTML>        | 1<br><br><br><br><br><br>1 | 2           |

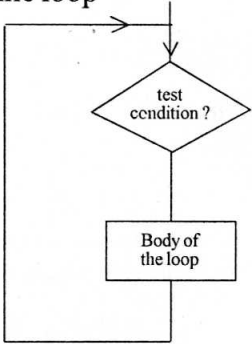
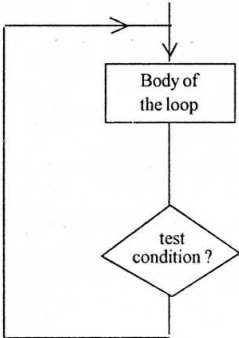
| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                         | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 10.    | <p>Syntax of the switch statement</p> <pre> Switch (expression {     case value 1 : Statement block 1                 break;     case value 2 : Statement block 2                 break;     .....     case value n : Statement block n                 break;     default      : default statement block } </pre> | <p>1</p> <p>1</p>   | 2           |
| 11.    | <p>The Back option is used to visit the last visited web page.</p> <p>Method :</p> <p>Select Source option from View menu.</p>                                                                                                                                                                                     | <p>1</p> <p>1</p>   | 2           |
| 12.    | <p>Working of a Modem :</p> <p>Modem changes the digital data from our computer to analog data, a format that can be carried by telephone lines (modulation). In a similar manner the computer receiving the data converts analog data to digital data through a modem (demodulation).</p>                         | <p>1</p> <p>1</p>   | 2           |
| 13.    | <p>Using Ternary operator :</p> <pre> a&gt;b ? (a&gt;c ? printf ("%d", a);       printf ("%d",c));(b&gt;c?       printf ("%d",b); printf (":%d",c)); </pre>                                                                                                                                                        | <p>2</p>            | 2           |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mark for each point        | Total Marks |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|
| 14.    | <p>a) A protocol is a set of rules which computers use to communicate with each other across a network.</p> <p>The protocol used to download programs is File Transfer Protocol (FTP)</p> <p>b) Internet connections are provided by ISP which installs a main server and through the server give connections to the user.</p>                                                                                                                                   | <p>1</p> <p>1</p> <p>1</p> | 3           |
| 15.    | <p>a) The header file for the library function clrscr () is conio.h</p> <p>The operator for bitwise XOR is ^.</p> <p>b) The pointer p can point to the array x by</p> <p>p = x;</p> <p>or, p = &amp;x[0];</p>                                                                                                                                                                                                                                                    | <p>1</p> <p>1</p> <p>1</p> | 3           |
| 16.    | <p>a) Steps for setting primary key</p> <ol style="list-style-type: none"> <li>1. Select the field to be used as a primary key.</li> <li>2. Select the primary key in the Table Design Toolbar.</li> </ol> <p>b) Hiding a field means that the field is not displayed on the screen.</p> <p>Freezing a field means that the field appears as leftmost column and it is visible.</p>                                                                              | <p>1</p> <p>1</p> <p>1</p> | 3           |
| 17.    | <p>a) &lt;HR&gt; tag is used to draw a line across the page.</p> <p>b) i) BACKGROUND attribute is used to specify a URL which is pointing to an image. This image will be used as a background for the document.</p> <p>BGCOLOR attribute is used to set the color of the background.</p> <p>ii) Hypertext is an ordinary text that has some extra features. Hyperlink is the link that help the user to move from one page of the web site to another page.</p> | <p>1</p> <p>1</p> <p>1</p> | 3           |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mark for each point        | Total Marks |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|
| 18.    | <p>&lt;HTML&gt;</p> <p>&lt;BODY&gt;</p> <p>&lt;IMG SRC = "PIC.JPG" ALIGN = "LEFT"</p> <p>HEIGHT = 50% WIDTH = 50%</p> <p>&lt;/BODY&gt;</p> <p>&lt;/HTML&gt;</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>½</p> <p>2</p> <p>½</p> | 3           |
| 19.    | <p>a) The two major services provided by Internet are :<br/>E-mail, E-commerce.</p> <p>b) The steps to open an e-mail account in <a href="http://www.rediff.com">http://www.rediff.com</a>:</p> <ol style="list-style-type: none"> <li>1. Connect to the Internet.</li> <li>2. Open any web browser, say Internet Explorer.</li> <li>3. Type <a href="http://www.rediff.com">www.rediff.com</a> in the address bar and press the Enter key.</li> <li>4. To open a new account click on Sign up.</li> <li>5. The rediff registration form will appear.</li> <li>6. Fill in the information and then click on the Register button.</li> <li>7. If all the entries are filled properly our account will be created.</li> </ol> | <p>1</p> <p>3</p>          | 4           |
| 20.    | <p>a) Logical expressions</p> <p>i) <math>ch &gt; 'a' \ \&amp; \ ch \leq 'z'</math><br/>or <math>ch &gt; 97 \ \&amp; \ ch \leq 122</math></p> <p>ii) <math>n \% 2! = 0 \mid n \% 7 == 0</math></p> <p>b) The output of the program will be</p> <p>36 16 25</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>1</p> <p>1</p> <p>1</p> | 3           |



| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mark for each point                 | Total Marks |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|
| 21.    | <p>a) A function is a self contained block of cod that performs a particular task.</p> <p>b) /x..... factorial of a positive integer .....x/<br/> <pre>#include &lt;stdio.h&gt; #include &lt;conio.h&gt; void main ( ) {     int n, act (int);     clrser ( );     printf ("Enter &lt; positive integer :");     scanf ("%d", &amp; n);     print ("Factorial = %d\n", fact (n)'     getch ( ); } int fact (iklnt k) {if ( == 0)     return 1; return k * fact (k-1); }</pre> </p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 4           |
| 22.    | <p>a) i) The &lt;LI&gt; tag is used to indicate a list item as contained in an ordered list or an unordered list.</p> <p>ii) The &lt;SUP&gt; tag is used to displayed the enclosed text as a superscript.</p> <p>b) i) &lt;FONT FACE = "COURIER" SIZE = "4"&gt;</p> <p>ii) &lt;BODY VLINK = "YELLOW" TEXT = "RED"&gt;</p>                                                                                                                                                          | <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 4           |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                 | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 23.    | <p>a) Loop Control Structure</p> <p>i) While loop</p>                                                                                                     | 1                   | 4           |
| 24.    | <p>ii) Do-while loop</p>                                                                                                                                 | 1                   |             |
|        | <p>b) i) In arrays all the array elements are of same data type.<br/>In structures all the structure members may have different data types.</p>                                                                                            | 1                   |             |
|        | <p>ii) The process of calling a function by passing the actual values of the variables is called call by value.<br/>The process of calling a function using pointers to pass the address of the variables is called call by reference.</p> | 1                   |             |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 24.    | <p>a) Exploring information on the web is called surfing.</p> <p>b) Internet is used for different purposes by different people.</p> <p>Some uses of the Internet as listed :</p> <ol style="list-style-type: none"> <li>1. E-Commerce (buying, selling products)</li> <li>2. Research (online journals, magazines, etc.)</li> <li>3. Education (e-learning, distance learning)</li> <li>4. E-Governance (online filling of income tax)</li> <li>5. Online ticket booking (airplane tickets, railway tickets, etc.)</li> <li>6. Online payments (Credit card payment, Debit Card payment).</li> <li>7. Video conferencing</li> </ol> | <p>1</p> <p>4</p>   | 5           |
| 25.    | <ol style="list-style-type: none"> <li>8. Net banking</li> <li>9. Social networking (sites like facebook, whatsapp, twitter, etc.)</li> </ol> <pre> &lt;HTML&gt; &lt;BODY&gt; &lt;OL TYPE = "A" START = "1"&gt; &lt;LI&gt; FOODS   &lt;OL TYPE = "i" START = "3"&gt;     &lt;LI&gt; RICE     &lt;LI&gt; FRUITS       &lt;UL TYPE = "DISC"&gt;         &lt;LI&gt; APPLE         &lt;LI&gt; GRAPES         &lt;LI&gt; MANGO       &lt;/UL&gt; </pre>                                                                                                                                                                                   | <p>1</p> <p>1</p>   | 5           |

| Q.<br>No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Mark<br>for<br>each<br>point | Total<br>Marks |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------|
|           | <pre> &lt;LI&gt; MEATS   &lt;OL TYPE = "a" START = "2"&gt;     &lt;LI&gt; CHICKEN     &lt;LI&gt; PORK     &lt;LI&gt; MUTTON   &lt;/OL&gt; &lt;LI&gt; VEGETABLES &lt;/OL&gt; &lt;LI&gt; GAMES   &lt;OL TYPE = "1" START = "4"&gt;     &lt;LI&gt; INDOOR GAMES       &lt;UL TYPE = "CIRCLE"&gt;         &lt;LI&gt; CHESS         &lt;LI&gt; BADMINTON         &lt;LI&gt; TABLE TENNIS       &lt;/UL&gt;     &lt;LI&gt; OUTDOOR GAMES       &lt;OL TYPE = "1" START "4"&gt;         &lt;LI&gt; FOOTBALL         &lt;LI&gt; CRICKET         &lt;LI&gt; HOCKEY       &lt;/OL&gt;     &lt;/OL&gt;   &lt;/OL&gt; &lt;/BODY&gt; &lt;/HTML&gt; </pre> | <p>1</p> <p>1</p> <p>1</p>   |                |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mark for each point                          | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------|
| 26.    | <pre> &lt;HTML&gt; &lt;HEAD&gt; &lt;TITLE&gt; ONLINE SHOPS &lt;/TITLE&gt; &lt;/HEAD&gt; &lt;BODY BGCOLOR = "BLUE"&gt; &lt;FONT FACE = "COURIER" COLOR = "RED"&gt; &lt;HI ALIGN = "CENTER"&gt; !!XYZ SHOPS!! &lt;/HI&gt; &lt;/FONT&gt; &lt;HR&gt; &lt;OL TYPE = "1" START = "1"&gt; &lt;LI&gt; &lt;B&gt; GENTS &lt;/B&gt;     &lt;UL TYPE = "CIRCLE"&gt;         &lt;LI&gt; &lt;A HRE = "SRT.HTM"&gt; SHIRTS &lt;/A&gt;         &lt;LI&gt; &lt;A HREF = "TRS.HTM"&gt; TROUSERS &lt;/A&gt;     &lt;/UL&gt; &lt;LI&gt; &lt;B&gt; LADIES &lt;/B&gt;     &lt;UL TYPE = "CIRCLE"&gt;         &lt;LI&gt; &lt;A HRE = "SAR.HTM"&gt; SAREES &lt;/A&gt;         &lt;LI&gt; &lt;A HREF = "SHS.HTM"&gt; SHOES &lt;/A&gt;     &lt;/UL&gt; &lt;/OL&gt; &lt;HR&gt; &lt;CENTER&gt; FOR MORE INFORMATION &lt;A HREF = "INF.HTM"&gt; CLICK HERE &lt;/A&gt; &lt;/CENTER&gt; &lt;/BODY&gt; &lt;/HTML&gt; </pre> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 5           |

| Q. No. | Value point/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mark for each point                                   | Total Marks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------|
| 27.    | <pre> /* . . . Programm sorting an array .... */ #include &lt;stdio.h&gt; #include &lt;conio.h&gt;  Void main ( ) {     int a[50], n, i, r, temp;     clrscr ( );     printf ("Enter the size of the array:");     scanf ("%d", &amp; n);     printf ("Supply the numbers :\n");     for (j=0; j&lt;n-1; j++)         for (i = 0; i&lt;n-1-j; i++)             {                 if(a[j]&gt;a[j+1])                 {                     temp = a[j];                     a[j] = a[j+1];                     a[j+1] = temp;                 }             }     printf ("Nos. in ascending order;\n");     for (i = 0; i&lt;n; i++)         printf ("%3d", a[i]);     getch ( ); } </pre> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 5           |





Total number of printed pages – 4

96 RM 24 Hm (N)

2018

HIGHER MATHEMATICS

Full Marks-80

Pass Marks - 20

Time: Three hours

Attempt **all** questions.

*The figures in the right hand margin indicate full marks for the questions.*

*For Question Nos. 1 to 5, write the letter corresponding to the correct answer.*

1. The 5th term in the expansion of  $\left(x - \frac{1}{x^2}\right)^{12}$  is : 1
  - (A) 495
  - (B) -495
  - (C) 792
  - (D) -792
2. The value of  $\sin(-1530^\circ)$  is : 1
  - (A)  $\frac{1}{2}$
  - (B)  $-\frac{1}{2}$
  - (C) 1
  - (D) -1

Contd.

3. The sum of the cubes of the first  $n$  natural number is : 1
- (A)  $\frac{n(n+1)}{2}$
- (B)  $\left\{ \frac{n(n+1)}{2} \right\}^2$
- (C)  $\left\{ \frac{n(n+1)}{2} \right\}^3$
- (D)  $\frac{n(n+1)(2n+1)}{6}$
4. Two forces magnitudes  $P$  and  $2P$  act on a particle in directions inclined at an angle of  $120^\circ$  to each other. The angle between the resultant force and  $P$  is : 1
- (A)  $30^\circ$
- (B)  $45^\circ$
- (C)  $60^\circ$
- (D)  $90^\circ$
5. If  $A = \begin{bmatrix} -1 & -1 \\ k & 2 \end{bmatrix}$  and  $A^2 = 4$ , then the value of  $k$  is : 1
- (A)  $-1$
- (B)  $1$
- (C)  $2$
- (D)  $0$
6. What is meant by an algebraic structure ? 1
7. If  $P(n)$  is the statement " $n^2 > 10$ ", prove that 1
- $P(k)$  is true  $\Rightarrow P(k+1)$  is true.
8. What is meant by an algebraic identity ? 1

9. Define an upper triangular matrix. 1
10. If a matrix A has 5 elements, what are the possible types A can be of? 1
11. If ABCD is a cyclic quadrilateral, prove that  
 $\sin A = \sin C$ . 1
12. State Parallelogram of forces. 1
13. The resultant of two equal forces P and P is of magnitude  $\sqrt{3}P$ . Find the angle between the forces. 1
14. prove that the binary operation \* on R defined by  $a*b = a+b+1 \forall a, b \in R$  is associative. 2
15. Insert two arithmetic means between a and b. 2
16. Find the containing  $x^9$  in the expansion of  $\left(x^2 - \frac{1}{x}\right)^9$ . 2
17. Find a matrix C such that  $A + B + 2C = 0$ , where  $A = \begin{bmatrix} -3 & 4 \\ 0 & 1 \end{bmatrix}$  and  
 $B = \begin{bmatrix} -1 & 2 \\ -2 & -5 \end{bmatrix}$ . 2
18. Evaluate :  $\sin^2 \frac{\pi}{4} + \sin^2 \frac{3\pi}{4} + \sin^2 \frac{5\pi}{4} + \sin^2 \frac{7\pi}{4}$  2
19. If the  $p^{\text{th}}$  term of an H.P. be q and the  $q^{\text{th}}$  term be p, prove that  $(p+q)^{\text{th}}$  term is  
 $\frac{pq}{p+q}$ . 3
20. If  $A = \begin{bmatrix} 2 & 1 \\ 5 & 3 \end{bmatrix}$ , find a matrix B such that  $AB = I$ . 3
21. If  $a + b + c = 0$ , prove that  
 $(ab + bc + ca)^2 = \frac{1}{4}(a^2 + b^2 + c^2)^2$  3
22. prove that  $a^2x + b^2y + c^2z = (x + y + z)(a^2 + b^2 + c^2)$ , if  $a^2 = x^2 - yz$ ,  $b^2 = y^2 - zx$  and  
 $c^2 = z^2 - xy$ . 3
23. Find the principal solutions of  $\cos \theta + \sqrt{3} \sin \theta = 2$ . 3

24. Let R be a given force. If OX and OY be two given directions making angles  $\alpha$  and  $\beta$  respectively with R, on opposite sides of it, write down the components of R along OX and OY. hence obtain the resolved parts of R along and perpendicular to OX. 3
25. prove by using the principle of mathematical induction that  $\forall n \in \mathbb{N}$ ,  
 $1 + 2 + 3 + \dots + n < \frac{1}{8}(2n+1)^2$ . 4
- Or,
26. Construct the composition table for the set  $S = \{1, 2, 3, 4, 5, 6\}$  with respect to the binary operation of multiplication modulo 7. From the table, find the identity element and the inverse of each element of S. 4
27. prove that every square matrix can be expressed uniquely as the sum of a symmetric matrix and a skew-symmetric matrix. 4
28. State and prove Binomial Theorem or a positive integral index. 5
29. Find the trigonometric ratios of  $270^\circ + \theta$  in terms of those of  $\theta$ . 5
30. Factorise :  $x(x-2)(2x+1)(2x-3)-63$ . 5

Or,

$$x^4 + 4x^3y - 10x^2y^2 + 4xy^3 + y^4.$$

31. 150 workers were engaged to finish a piece of work in a certain number of days. 4 workers dropped the second day. 4 more workers dropped the third day and so on. It takes 8 more days to finish the work now. Find the number of days in which the work was completed. 6
32. Three forces 3P, 7P and 5P act at a point in directions parallel to the sides AB, BC and CA of an equilateral  $\triangle ABC$ . Find the magnitudes of the resultant and the angle made by the resultant with BC. 6

Or,

The resultant of two forces P and Q is  $\sqrt{3}Q$  at an angle  $30^\circ$  with P. Show that either  $P = Q$  or  $P = 2Q$ .

**SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME**

**H.S.L.C. EXAMINATION - 2018**

**SUBJECT : HIGHER MATHEMATICS**

**- 80 marks.**

| Q. No. | Answers                                                                                                                                                                                                                                                                               | Mark for each point | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 1.     | (A)                                                                                                                                                                                                                                                                                   | 1                   | 1           |
| 2.     | (D)                                                                                                                                                                                                                                                                                   | 1                   | 1           |
| 3.     | (B)                                                                                                                                                                                                                                                                                   | 1                   | 1           |
| 4.     | (D)                                                                                                                                                                                                                                                                                   | 1                   | 1           |
| 5.     | (C) or any option                                                                                                                                                                                                                                                                     | 1                   | 1           |
| 6.     | Book definition.                                                                                                                                                                                                                                                                      | 1                   | 1           |
| 7.     | $P(k)$ is true $\Rightarrow k^2 > 10$<br>$\Rightarrow (k+1)^2 > 10$<br>$\Rightarrow P(k+1)$ is true.                                                                                                                                                                                  | 1                   | 1           |
| 8.     | Book definition.                                                                                                                                                                                                                                                                      | 1                   | 1           |
| 9.     | Book definition.                                                                                                                                                                                                                                                                      | 1                   | 1           |
| 10.    | A can be a column matrix or a row matrix.                                                                                                                                                                                                                                             | 1                   | 1           |
| 11.    | $\sin A = \sin (180^\circ - C)$ [ $\because A + C = 180^\circ$ ]<br>$= \sin C$                                                                                                                                                                                                        | 1                   | 1           |
| 12.    | Book result.                                                                                                                                                                                                                                                                          | 1                   | 1           |
| 13.    | Let $\theta$ be the angle between the forces.<br>Then by question,<br>$(\sqrt{3}P)^2 = P^2 + P^2 + 2.P.P.\cos\theta$<br>$\Rightarrow 3P^2 = 2P^2 + 2P^2\cos\theta$<br>$\Rightarrow P^2 = 2P^2\cos\theta$<br>$\Rightarrow \cos\theta = \frac{1}{2}$<br>$\Rightarrow \theta = 60^\circ$ | 1                   | 1           |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mark for each point | Total Marks |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 14.    | <p>We have <math>a*b = a+b+1 \forall a, b \in R</math></p> <p>Then, <math>(a*b)*c = (a+b+1)*c</math><br/> <math>= (a+b+1)+c+1</math><br/> <math>= a+b+c+2</math></p> <p>And <math>*a(b*c) = a*(b+c+1)</math><br/> <math>= a+(b+c+1)+1</math><br/> <math>= a+b+c+2</math></p> <p>Thus, <math>(a*b)*c = a*(b*c) \forall a, b, c \in R</math><br/> Hence the operation <math>*</math> is associative.</p>                                                                                                                              | <p>1</p> <p>1</p>   | 2           |
| 15.    | <p>Let <math>x_1</math> and <math>x_2</math> be the required means.</p> <p>Then <math>a, x_1, x_2, b</math> are in AP.</p> <p>Let <math>d</math> be the CD of the AP, then,<br/> <math>b = a + 3d</math><br/> <math>\Rightarrow d = \frac{b-a}{3}</math></p> <p><math>\therefore x_1 = a + d = a + \frac{b-a}{3} = \frac{2a+b}{3}</math><br/> and <math>x_2 = a + 2d = a + 2\left(\frac{b-a}{3}\right) = \frac{a+2b}{3}</math></p> <p>Hence the required means are <math>\frac{2a+b}{3}</math> and <math>\frac{a+2b}{3}</math>.</p> | <p>1</p> <p>1</p>   | 2           |
| 16.    | <p><math>\left(x^2 - \frac{1}{x}\right)^9</math></p> <p><math>T_{r+1} = (-1)^r 9C_r (x^2)^{9-r} \left(\frac{1}{x}\right)^r = (-1)^r 9C_r x^{18-3r}</math></p> <p>Since this term involves <math>x^9</math>, then<br/> <math>18-3r = 9 \Rightarrow r = 3</math></p> <p>Hence, the required term <math>= (-1)^3 9C_3 x^9</math><br/> <math>= -84x^9</math>.</p>                                                                                                                                                                       | <p>1</p> <p>1</p>   | 2           |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mark for each point                  | Total Marks                          |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| 17.    | $A = \begin{bmatrix} -3 & 4 \\ 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & 2 \\ -2 & -5 \end{bmatrix}$<br>Now, $A + B + 2C = 0$<br>$\Rightarrow \begin{bmatrix} -3 & 4 \\ 0 & 1 \end{bmatrix} + \begin{bmatrix} -1 & 2 \\ -2 & -5 \end{bmatrix} + 2C = 0$<br>$\Rightarrow 2C = \begin{bmatrix} -4 & 6 \\ -2 & -4 \end{bmatrix} + 2C = 0$<br>$\Rightarrow 2C = \begin{bmatrix} -4 & 6 \\ -2 & -4 \end{bmatrix}$<br>$\Rightarrow 2C = \begin{bmatrix} 4 & -6 \\ 2 & 4 \end{bmatrix}$<br>$\Rightarrow C = \frac{1}{2} \begin{bmatrix} 4 & -6 \\ 2 & 4 \end{bmatrix} = \begin{bmatrix} 2 & -3 \\ 1 & 2 \end{bmatrix}$ | <br><br><br><br><br><br><br><br><br> | <br><br><br><br><br><br><br><br><br> |
| 18.    | $\sin^2 \frac{\pi}{4} + \sin^2 \frac{3\pi}{4} + \sin^2 \frac{5\pi}{4} + \sin^2 \frac{7\pi}{4}$<br>$= \sin^2 \frac{\pi}{4} + \sin^2 (\pi - \frac{\pi}{4}) + \sin^2 (\pi + \frac{\pi}{4}) + \sin^2 (2\pi - \frac{\pi}{4})$<br>$= \sin^2 \frac{\pi}{4} + \sin^2 \frac{\pi}{4} + (-\sin \frac{\pi}{4})^2 + (-\sin \frac{\pi}{4})^2$<br>$= 2\sin^2 \frac{\pi}{4} + \sin^2 \frac{\pi}{4} + \sin^2 \frac{\pi}{4}$<br>$= 4\sin^2 \frac{\pi}{4} = 4 \times \left(\frac{1}{\sqrt{2}}\right)^2 = 4 \times \frac{1}{2} = 2.$                                                                                                         | <br><br><br><br><br><br><br><br><br> | <br><br><br><br><br><br><br><br><br> |
| 19.    | Let $a$ be the first term and $d$ be the CD of the corresponding AP.<br>Then, by question, $a + (p-1)d = \frac{1}{q}$ ----- (1)<br>$a + (q-1)d = \frac{1}{p}$ ----- (2)<br>From (1) and (2), we get $a = \frac{1}{pq}$ and $d = \frac{1}{pq}$<br>$(p+q)^{\text{th}}$ term of the corresponding AP<br>$= a + (p+q-1)d$<br>$= \frac{1}{pq} + (p+q-1) \cdot \frac{1}{pq}$<br>$= \frac{p+q}{pq}$<br>Hence, $(p+q)^{\text{th}}$ term of the HP = $\frac{pq}{p+q}$                                                                                                                                                             | <br><br><br><br><br><br><br><br><br> | <br><br><br><br><br><br><br><br><br> |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mark for each point        | Total Marks |
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| 20.    | $A = \begin{bmatrix} 2 & 1 \\ 5 & 3 \end{bmatrix}$ $\text{Let } B = \begin{bmatrix} a & b \\ c & d \end{bmatrix} \text{ Then,}$ $AB = 1$ $\Rightarrow \begin{bmatrix} 2 & 1 \\ 5 & 3 \end{bmatrix} \begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ $\Rightarrow \begin{bmatrix} 2a+c & 2b+d \\ 5a+3c & 5b+3d \end{bmatrix} = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ $\Rightarrow \begin{cases} 2a+c = 1 \\ 5a+3c = 0 \\ 2b+d = 0 \\ 5b+3d = 1 \end{cases}$ $\Rightarrow a = 3, b = -1, c = -5, d = 2$ $\text{Hence, } B = \begin{bmatrix} 3 & -1 \\ -5 & 2 \end{bmatrix}$ | <p>1</p> <p>1</p> <p>1</p> | 3           |
| 21.    | Book result                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3                          | 3           |
| 22.    | $a^2 = x^2 - yz, \quad b^2 = y^2 - zx, \quad c^2 = z^2 - xy \quad \text{----- (1)}$ $a^2x + b^2y + c^2z = (x^2 - yz)x + (y^2 - zx)y + (z^2 - xy)z \quad [\because \text{ of (1)}]$ $= x^3 + y^3 + z^3 - 3xyz$ $= (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$ $= (x + y + z)\{(x^2 - yz) + (y^2 - zx) + (z^2 - xy)\}$ $= (x + y + z)(a^2 + b^2 + c^2)$                                                                                                                                                                                                                                                                        | <p>1</p> <p>1</p> <p>1</p> | 3           |
| 23.    | $\cos\theta + \sqrt{3}\sin\theta = 2$ $\Rightarrow \sqrt{3}\sin\theta = 2 - \cos\theta$ $\Rightarrow (\sqrt{3}\sin\theta)^2 = (2 - \cos\theta)^2$ $\Rightarrow 3\sin^2\theta = 4 - 4\cos\theta + \cos^2\theta$ $\Rightarrow 3(1 - \cos^2\theta) = 4 - 4\cos\theta + \cos^2\theta$ $\Rightarrow 4\cos^2\theta - 4\cos\theta + 1 = 0$                                                                                                                                                                                                                                                                                           | 1                          |             |



| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Mark for each point        | Total Marks |
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|        | $\Rightarrow (2\cos\theta - 1)^2 = 0$ $\Rightarrow 2\cos\theta - 1 = 0$ $\Rightarrow \cos\theta = \frac{1}{2}$ $\Rightarrow \cos\theta = \cos\frac{\pi}{3}$ $\Rightarrow \theta = 2n\pi \pm \frac{\pi}{3}, n \in \mathbb{Z} \text{ of which the value of } \theta \text{ between } 0 \text{ and } 2\pi \text{ are } \frac{\pi}{3} \text{ and } \frac{5\pi}{3}, \text{ But } \theta = \frac{5\pi}{3} \text{ does not satisfy the given equation.}$ <p>Hence, the principal solution is given by <math>\theta = \frac{\pi}{3}</math>.</p>                                                                                                                                                                                                                                                           | <p>1</p> <p>1</p>          | 3           |
| 24.    | Book result                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 3                          | 3           |
| 25.    | <p>Let <math>P(n): 1 + 2 + 3 + \dots + n &lt; \frac{1}{8}(2n+1)^2</math></p> <p>When <math>n = 1</math>, L.H.S. = 1 and R.H.S. = <math>\frac{1}{8}(2+1)^2 = \frac{9}{8}</math></p> <p><math>\therefore</math> L.H.S. &lt; R.H.S.</p> <p>Then, <math>P(1)</math> is true.</p> <p>Assume that <math>P(k)</math> is true for some value of <math>k</math> of <math>n</math>. Then,</p> $1 + 2 + 3 + \dots + k < \frac{1}{8}(2k+1)^2$ <p>Adding <math>(k+1)</math> to both sides, we get</p> $1 + 2 + 3 + \dots + (k+1) < \frac{1}{8}(2k+1)^2 + (k+1)$ $= \frac{1}{8}(2k+1)^2 + 8(k+1)$ $= \frac{1}{8}(4k^2 + 12k + 9)$ $= \frac{1}{8}(2k+3)^2$ $= \frac{1}{8}\{2(k+1) + 1\}^2$ $\Rightarrow 1 + 2 + 3 + \dots + (k+1) < \frac{1}{8}\{2(k+1) + 1\}^2$ <p><math>\Rightarrow P(k+1)</math> is true.</p> | <p>1</p> <p>1</p> <p>1</p> | 4           |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mark for each point                 | Total Marks |
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|        | <p>Thus, <math>P(k)</math> is true <math>\Rightarrow P(k+1)</math> is true</p> <p>Hence by the principle of mathematical induction,</p> <p><math>P(n)</math> is true <math>\forall n \in \mathbb{N}</math>.</p> <p><math>1 + 2 + 3 + \dots + n &lt; \frac{1}{8}(2n+1)^2 \forall n \in \mathbb{N}</math>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                                   |             |
|        | <b>OR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |             |
|        | <p>Let <math>P(n): f(n) = a^n - b^n</math> is divisible by <math>a - b</math>.</p> <p>Now, <math>f(1) = a - b</math>, which is divisible by <math>a - b</math>.</p> <p><math>\therefore P(1)</math> is true.</p> <p>Assume that <math>P(k)</math> is true or some value <math>k</math> of <math>n</math>. Then,</p> <p><math>f(k) = a^k - b^k</math> is divisible by <math>a - b</math>.</p> <p>Let <math>f(k) = (a - b) \phi(a, b) \dots \dots \dots (1)</math></p> <p>Where <math>\phi(a, b)</math> is some polynomial in <math>a</math> and <math>b</math>.</p> <p>We have <math>f(k+1) = a^{k+1} - b^{k+1}</math></p> <p><math>= a^{k+1} - a^k b + a^k b - b^{k+1}</math></p> <p><math>= a^k(a - b) + b(a^k - b^k)</math></p> <p><math>= a^k(a - b) + b f(k)</math></p> <p><math>= a^k(a - b) + b(a - b)\phi(a, b) [\because \text{of (1)}]</math></p> <p><math>= (a - b)[a^k + b\phi(a, b)]</math>, which is divided by <math>a - b</math></p> <p><math>\Rightarrow P(k+1)</math> is true.</p> <p>Thus, <math>P(k)</math> is true <math>\Rightarrow P(k+1)</math> is true.</p> <p><math>\therefore P(n)</math> is true <math>\forall n \in \mathbb{N}</math></p> <p>Hence <math>a^n - b^n</math> is divisible by <math>a - b \forall n \in \mathbb{N}</math></p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 4           |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mark for each point                                              | Total Marks  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------------------|--------------|
| 26.    | <div><div>Composition Table</div><table><tr><td><math>X_7</math></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>2</td><td>2</td><td>4</td><td>6</td><td>1</td><td>3</td><td>5</td></tr><tr><td>3</td><td>3</td><td>6</td><td>2</td><td>5</td><td>1</td><td>4</td></tr><tr><td>4</td><td>4</td><td>1</td><td>5</td><td>2</td><td>6</td><td>3</td></tr><tr><td>5</td><td>5</td><td>3</td><td>1</td><td>6</td><td>4</td><td>2</td></tr><tr><td>6</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr></table><p>From the above table, we see that</p><math display="block">a * 1 = a = 1 * a \quad \forall a \in S.</math><p><math>\therefore 1 \in S</math> is the identity element.</p><p>Also, <math>1 * 1 = 1 \Rightarrow 1^{-1} = 1,</math></p><math display="block">2 * 4 = 1 = 4 * 2 \Rightarrow 2^{-1} = 4 \text{ and } 4^{-1} = 2</math><math display="block">3 * 5 = 1 = 5 * 3 \Rightarrow 3^{-1} = 5 \text{ and } 5^{-1} = 3</math><math display="block">6 * 6 = 1 \Rightarrow 6^{-1} = 6</math><p>Hence the inverse of the elements 1, 2, 3, 4, 5, 6 are 1, 4, 5, 2, 3, 6 respectively.</p></div> | $X_7$                                                            | 1            | 2 | 3 | 4 | 5 | 6 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 2 | 2 | 4 | 6 | 1 | 3 | 5 | 3 | 3 | 6 | 2 | 5 | 1 | 4 | 4 | 4 | 1 | 5 | 2 | 6 | 3 | 5 | 5 | 3 | 1 | 6 | 4 | 2 | 6 | 6 | 5 | 4 | 3 | 2 | 1 | <div>2</div> <div>1</div> <div>1</div> | <div>4</div> |
| $X_7$  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2                                                                | 3            | 4 | 5 | 6 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 1      | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2                                                                | 3            | 4 | 5 | 6 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 2      | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4                                                                | 6            | 1 | 3 | 5 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 3      | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6                                                                | 2            | 5 | 1 | 4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 4      | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1                                                                | 5            | 2 | 6 | 3 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 5      | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3                                                                | 1            | 6 | 4 | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 6      | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 5                                                                | 4            | 3 | 2 | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 27.    | Book result.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4                                                                | 4            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 28.    | Book result.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5                                                                | 5            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 29.    | Book result.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5                                                                | 5            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
| 30.    | <div><div><math display="block">\begin{aligned} &amp;x(x-2)(2x+1)(2x-3)-63 \\ = &amp;x(2x-3)(x-2)(2x+1)-63 \\ = &amp;(2x^2-3x)(2x^2-3x-2)-63 \\ = &amp;y(y-2)-63 \text{ [Putting } y=2x^2-3x\text{]} \\ = &amp;y-2y-63 \\ = &amp;(y+7)(y-9) \\ = &amp;(2x^2-3x+7)(2x^2-3x-9) \\ = &amp;(2x^2-3x+7)(2x+3)(x-3) \end{aligned}</math></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <div>1</div> <div>1</div> <div>1</div> <div>1</div> <div>1</div> | <div>5</div> |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |
|        | OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                  |              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                                        |              |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mark for each point                                   | Total Marks |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------|
|        | $  \begin{aligned}  & x^4 + 4x^3y - 10x^2y^2 + 4xy^3 + y^4 \\  = & (x^4 + y^4) + (4x^3y + 4xy^3) - 10x^2y^2 \\  = & (x^2 + y^2)^2 - 2x^2y^2 + 4xy(x^2 + y^2) - 10x^2y^2 \\  = & (x^2 + y^2)^2 + 4xy(x^2 + y^2) - 12x^2y^2 \\  = & u^2 + 4u9 - 129^2, \quad \text{where } u = x^2 + y^2 \text{ and } 9 = xy \\  = & (u - 29)(u + 69) \\  = & (x^2 + y^2 - 2xy)(x^2 + y^2 + 6xy) \\  = & (x - y)^2(x^2 + 6xy + y^2)  \end{aligned}  $                                                                                                                                                                                                                                                                                                             | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> | 5           |
| 31.    | <p>Let the work was completed in n days when the workers started dropping.</p> <p>∴ Total number of workers who worked in all the n days</p> <p>= 150 + 146 + 142 + ..... to n terms [an AP series with a = 150 &amp; d = -4]</p> <p>= <math>\frac{n}{2}[2 \times 150 + (n - 1)(-9)]</math></p> <p>= 2n(76 - n) .....(1)</p> <p>Had the workers not dropped, then the work would have finished in (n-8) days with 150 workers working on each day.</p> <p>∴ Total no. of workers = 150(n-8) .....(2)</p> <p>From (1) and (2), we have,</p> <p>2n(76 - n) = 150(n - 8)</p> <p>⇒ n<sup>2</sup> - n - 600 = 0</p> <p>⇒ (n - 25)(n + 24) = 0</p> <p>⇒ n - 25 = 0 [∵ n + 24 ≠ 0]</p> <p>⇒ n = 25</p> <p>Hence the work was completed in 25 days.</p> | <p>2</p> <p>1</p> <p>3</p>                            | 6           |

| Q. No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Mark for each point                                                                                                                                                                                                                               | Total Marks                              |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| 32.    | <div data-bbox="204 344 580 651"> </div> <div data-bbox="619 344 932 613"> </div> <p data-bbox="145 680 943 770">Let X and Y be the algebraic sums of the resolved parts of the forces along and perp. to BC respectively.</p> <p data-bbox="145 786 748 927">Then, <math>X = 7P\cos 0^\circ + 5P\cos 120^\circ + 3P\cos 24^\circ</math><br/> <math>= 7P \times 1 + 5P \times (-\frac{1}{2}) + 3P \times (-\frac{1}{2})</math><br/> <math>= 7P - 4P = 3P</math></p> <p data-bbox="145 943 724 1095">and <math>Y = 7P\sin 0^\circ + 5P\sin 120^\circ + 3P\sin 24^\circ</math><br/> <math>= 7P \times 0 + 5P \times \frac{\sqrt{3}}{2} + 3P \times (-\frac{\sqrt{3}}{2})</math><br/> <math>= \sqrt{3}P</math></p> <p data-bbox="145 1111 927 1151">Let R be the magnitude of the resultant of the given forces.</p> <p data-bbox="145 1167 751 1263">Then, <math>R^2 = X^2 + Y^2 = (3P)^2 + (\sqrt{3}P)^2 = 12P^2</math><br/> <math>\Rightarrow R = \sqrt{12P^2} = 2\sqrt{3}P</math></p> <p data-bbox="145 1279 820 1319">Let <math>\theta</math> be the angle made by resultant with BC. Then,</p> <p data-bbox="217 1335 628 1375"><math>\tan \theta = \frac{Y}{X} = \frac{\sqrt{3}P}{3P} = \frac{1}{\sqrt{3}} \Rightarrow \theta = 30^\circ.</math></p> <p data-bbox="145 1391 940 1487">Hence the resultant of the given forces is <math>2\sqrt{3}P</math> in a direction making an angle <math>30^\circ</math> with BC.</p> | <p data-bbox="1027 450 1043 479">1</p> <p data-bbox="1027 786 1043 815">1</p> <p data-bbox="1027 1010 1043 1039">1</p> <p data-bbox="1027 1167 1043 1196">1</p> <p data-bbox="1027 1301 1043 1330">1</p> <p data-bbox="1027 1435 1043 1464">1</p> | <p data-bbox="1115 1111 1139 1140">6</p> |
|        | OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                   |                                          |

| Q.<br>No. | Answers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mark<br>for<br>each<br>point        | Total<br>Marks |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------|
|           | <div data-bbox="616 327 979 506"> </div> <p>Let <math>\alpha</math> be the angle between the forces P and Q.</p> <p>Then, by question,</p> $(\sqrt{3}Q)^2 = P^2 + Q^2 + 2PQ\cos\alpha$ $\Rightarrow 3Q^2 = P^2 + Q^2 + 2PQ\cos\alpha$ $\Rightarrow \cos\alpha = \frac{2Q^2 - P^2}{2PQ} \dots\dots\dots (1)$ <p>Since the resultant force <math>\sqrt{3}Q</math> makes an angle <math>30^\circ</math> with P,</p> <p>Then,</p> $\sqrt{3}Q\cos 30^\circ = P + Q\cos\alpha \text{ [using } R\cos\theta = P + Q\cos\alpha \text{]}$ $\Rightarrow \sqrt{3}Q \times \frac{\sqrt{3}}{2} = P + Q\left(\frac{2Q^2 - P^2}{2P}\right) \quad [\because \text{ of (1)}]$ $\Rightarrow \frac{3Q}{2} = P + \frac{2Q^2 - P^2}{2P}$ $\Rightarrow 3PQ = 2P^2 + 2Q^2 - P^2$ $\Rightarrow P^2 - 3PQ + 2Q^2 = 0$ $\Rightarrow (P - Q)(P - 2Q) = 0$ $\Rightarrow P - Q = 0 \text{ or } P - 2Q = 0$ $\Rightarrow P = Q \text{ or } P = 2Q$ | <p>1</p> <p>1</p> <p>1</p> <p>3</p> | 6              |

Total number of printed pages – 3

96 RM 36 Thta (N)

2018

THANG-TA

Full Marks - 48

Pass Marks - 12

Time: Two hours

බන්ධනාගාර ජනරජයේ නීති පිළිබඳව විකල්ප පරීක්ෂණයක් සිදු කළේය. ඔබගේ පිළිතුරු දෙන්න.

1. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව දෙකේ පිටපත් දෙකක් දෙන්න.

5

ක. බන්ධනාගාර

ආ. ක්‍රියාත්මක කිරීම

ඇ. බන්ධනාගාර

ඈ. බන්ධනාගාර

2. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව දෙකේ පිටපත් දෙකක් දෙන්න.

5

ක. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව

ආ. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව

ඇ. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව

ඈ. බන්ධනාගාර ක්‍රියාත්මක කිරීමේ පිළිබඳව

Contd.





98 || ග්‍රේසර් ගිවිසිල්ලට එක් කළ යුතුයා සඳහා කොමිෂන් වරයාට එරෙහිව ගොඩනඟා ගිය ඉල්ලුම් පත්‍රයක් සඳහා  
කොමිෂන් වරයාට දී ඇත. ||

2

99 || යම්-කුමාරි සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. ||

3

එක් උපකරණයක් 99 දෙනෙක් සඳහා දී ඇත. එක් 900 දෙනෙක් සඳහා දී ඇත. ||

එක් උපකරණයක් 99 දෙනෙක් සඳහා දී ඇත. ||

99 || ස්වකීය ආයතනයක් (කොමිෂන් වරයාට) උපකරණයක් සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. ||

4

99 || යම්-කුමාරි සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. ||

5

99 || එක් උපකරණයක් සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. එය සඳහා කොමිෂන් වරයාට දී ඇත. ||

6

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| Q. No. | Value Point/Key/Outline Answer                                                 | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------|---------------------|-------------|
| ၁      | ဂ. မေတ္တီဇာနည် ။                                                               | ၅                   | ၅           |
| ၂      | ဃ. နန္ဒမာရ်၏ နာမဝိသေသနာများ ။                                                  | ၅                   | ၅           |
| ၃      | င. မေတ္တီဇာနည်၏ ဇာတိ ။                                                         | ၅                   | ၅           |
| ၄      | ညောင်ရမ်း ရွာတွင် နာမဝိသေသနာများ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။ | ၅                   | ၅           |
| ၅      | မေတ္တီဇာနည် / မေတ္တီဇာနည် ။                                                    | ၅                   | ၅           |
| ၆      | မေတ္တီဇာနည်၏ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။                     | ၅                   | ၅           |
| ၇      | မေတ္တီဇာနည်၏ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။                                | ၅                   | ၅           |
| ၈      | ညောင်ရမ်း ရွာတွင် နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။                           | ၅                   | ၅           |
| ၉      | မေတ္တီဇာနည်၏ နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။                                | ၅+၅                 | ၁၀          |
| ၁၀     | ညောင်ရမ်း ရွာတွင် နာမဝိသေသနာ နာမဝိသေသနာ နာမဝိသေသနာ ။                           | ၅+၅                 | ၁၀          |

[illegible]



Total number of printed pages – 3

96 RM 43 Eman- (N)

2018

**ELEMENTARY MANIPURI**

Full Marks - 80

Pass Marks - 20

Time: Three hours

ব্রাহ্মণে অসিগী 'ক', 'খ', 'গ', 'ঘ' হায়বা কাঙলুপ মরি খায়দোকই।

ব্রাহ্ম খুদিংমকী মার্ক ব্রাহ্মগী মপাদা য়েংখংবা লাপান্দা ইরি।

নশাগী ব্রাহ্মে-ব্রাতা শিজীন্নদুনা পাউখুম পীমু।

কাঙলুপ - ক

(পাবা)

১। মখাগী ব্রাহ্মেং মতেক অসি পারগা হংলিবা ব্রাহ্মশিংগী পাউখুম ইয়ু।

নোংমা লমহুই অমনা লোনা অঙ্গুরগী হৈকোন্দা চঙলম্মী। নিংখিজনা মুল্লবা, ফজরবা উহৈশিং  
উবদা য়ান্না চাংবা ফাওরম্মী। অরাবদি উহৈশিং অদু য়ান্না ব্রাংনা পাল্লম্মী। চাংমনম্নদুনা মদু ফংননবা  
হমা হমা চোংখংতুনা ফংনবা হোংনরম্মী অমসুং উপাই কয়া শিজীন্নরম্মী। অঙ্গুরদি হেকপা ঙল্লমদে।  
অঙ্গুর চাবা ফংদ্রবদা 'অঙ্গুর শীল্লি' হায়রম্মগা চংখিরম্মী।

- |                                                                     |   |
|---------------------------------------------------------------------|---|
| ক) লমহুইনা লোনা হৈকোন্দগী অঙ্গুর হেল্লম্মী। (চুম্মি / লাল্লি ইরকউ।) | ১ |
| খ) লমহুইনা ব্রারিবগী মরম করিগীনো ?                                  | ১ |
| গ) লমহুইনা উহৈদু ফংননবা করম্মা হোংখিবগে ?                           | ২ |
| ঘ) 'অঙ্গুর শীল্লি' হায়বগী অর্থ করিনো ?                             | ৩ |

Contd.

কাঙলুপ - খ

(ইবা)

২। মখাগী পাউরৌ অসি মনুংগী ভাব শন্দোক্লা তাকুনা চাউরাক্লা রাইহে ১৫০ ফাওবগী মনুংদা ইরকউ।

ক) চাক চগ্রিং অমনা চেংকোক অমা মাংথোকই।

৭

নংত্রগা

খ) হৌজীকী মতমদা নহাশিংনা লম্বীগী নিয়ম ঙাকুনা গাড়ী পংথৌদা থৌনবা অসিনা খুদোংথিবা  
থোকহল্লিবা অসিগী মরমদা ইরগা নুংতিগী ফোঙবা পাউচে 'শঙাই' চেফোঙদা হাপ্লা চেফোঙদুগী  
ইদিটরদা ইয়ু। (নহাকী নমিং তোম্পোক নিংথৌজা, ইম্ফাল হায়না ইরকউ।)

৭

কাঙলুপ - গ

(গ্রামার অমসুং কম্পোজিসন)

৩। মখাদা পীরিবা রাইহপরেং অসি ব্রেকেট মনুংদগী অচুস্বা অমা খল্লগা ইয়ু।

১

ইবুংঙো চংলো। (ইচম চস্বা রাইহপরেংনি / হায়জ-য়াথং খঙনবা রাইহপরেংনি)

৪। মখাদা পীরিবা রাইহপরেং অসি কোইথোক্লা পাউ তম্বদা ওল্লু।

১

ঐনা ইমান্নবা অমদা, "মরুপ, ফিদাদা ফম্মু" হায়থি।

৫। মখাদা পীরিবা রাইহপরেং অসিগী মওং য়েংলগা রাইহপরেংগী মশক তাকউ।

১

মহাক চংথ্রে হায়বদু ঐথোয় খঙলে।

৬। মখাদা লৈই চিংলিবা রাইহ অসি ভবকা করি ওইনা লৈবগে ?

১

মকোয় কোল্লা লৈরকই।

৭। মখাদা পীরিবা প্রামান-পাইস্থ অসি অর্থ কারগা রাইহপরেং অমা শেম্মু।

২

'উত্তা ঘী হৈবা'।

৮। মখাগী হীরমশিং অসিদগী অমা খল্লগা রাইপরেং (এসে) অমা রাই ৩০০রোমগী মনুংদা ইরকউ।

ক) বন্দগী চৈথেং।

৮

খ) মোবাইল ফোন।

কাঙলুপ - ঘ

(সাহিত্য)

৯। যাওফম, মরী-মকোং তাকুনা শন্দেকা ইরকউ।

ক) পামজদে মুক্তি

নীজদে শান্তি ঐনা

হে মীওইবা নঙগী

৭

খুয়াখাগী উফুল ওইজগে।

নংত্রগা

মরুভুমি ওইখগনি লৈবাক অসে

উ থাদ্রবদি উ য়ানলবদি

উ থাগদবনি

লৈ থাগদবনি।

৭

ক) অহল অদুক ওইরবী মানা চিংলম্বী অদুদগী থোরজুনা পুঙ্গিগী হিংনবা লানফমদা মায়োক য়ারিবদু

খন্দুনা ঙাইহাক্তি মাগী রাখন্দা লূপখি।

৭

নংত্রগা

খ) ঐখোয়না মালেম অসিদা মখল কয়ামরুমগী মশানশিং উবা ফংলি। কংফান্দা, ঙিশিংদা, উন্দা

অমদি নোংখক্তা মখল মখা অয়াম্বগী মশানশিং পাঙতোল্লি।

৭

১০। লম্বীগী উফুলগী আসা করি।

১

- ১১। ‘অনৌবা যুস্মী অমতং যুংবীযু।’  
অনৌবা যুস্মী করিনো ? ১
- ১২। কবি নীলকান্তনা হৌজীকী জগৎ অসিবু অরাবগী মশক্লি হায়রিবা করিগীনো ? ২
- ১৩। ‘নোংলৈ নুংশিং’না খঙহন্নিংলিবা নুংগী অর্থ করিনো ? ৩
- ১৪। শগোল লান্মীশিংনা লমদমসিদা লান্দারকপশিংবু ঙাকথোক্লুম্মী।  
(চুম্মি / লান্মি ইরকউ।) ১
- ১৫। এইডস করম্মা নারকপগে ? ১
- ১৬। অইবীনা চিংগী ইমাগী করি উরুবদগী থন্মোয় শোকখিবগে ? ১
- ১৭। বিজ্ঞানবু কিনিংঙাই ওইরিবা করিগীনো ? ২
- ১৮। টেরোরিজমগা ভারতকী সংস্কৃতিগা অনি অসি ওন্ন-তৈনবনি হায়রিবা করিগীনো ? ৪
- ১৯। ক) চিংমী অমসুং তন্মীগী মরিদা মান্নবা করি করি উবা ফংবগে ? ৮
- নংত্রগা
- খ) কমলানা হু থক্তুনা শিজনবা হোৎনরন্নিবগী মরম করিগীনো ? ৮
- ২০। নোংচুপলোমগী সমাজদা নুপীনা নুপাগী থাজ্ঞা লৈবা ঙন্নিবা করিগীনো ? ১
- ২১। ‘দেং জোন’ হায়রগা করম্মা মফন্মু খঙনবগে ? ১
- ২২। দিজাস্তর হায়রগা করিবু খঙনবগে ? ৪
- ২৩। ক) ভারতকী নুপা নুপীগী খল অসি য়েংলুরবদি অদুক হাক্সা হরাওনিংঙাই ওইদে হায়না অইবনা  
হায়রিবগী মরম করিনো হায়যু, শন্দোক্সা ইরকউ। ৮
- নংত্রগা
- খ) থানবা যাদ্রবা মীওইবগী হৌনশা করিনো ?
- হৌনশা অসিনা মালেমগী জাতিশিংগী মরজ্ঞা মান্নবা লীচিং ওইরি করম্মা হায়রিবনো ? ৮



**SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME**

Subject and Paper :- **Elementary Manipuri (2018)**

| Q. No. | Value Point/Key/Outline Answer                                                 | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------|---------------------|-------------|
|        | <b>কাঙলুপ - ক</b><br><b>(পাবা)</b>                                             |                     |             |
| ১      | ক) লাল্লি।                                                                     | ১                   | ১           |
|        | খ) উহৈ ব্ৰাংনা পানবনা ফংলৌইদবা।                                                | ১                   | ১           |
|        | গ) হুমা হুমা চোংখুতুনা উপাই কয়া থিরম্মী।                                      | ২                   | ২           |
|        | ঘ) ফংনিংলিবা পোংশক ফংবা ওমদ্রবা মতমদা হুন্দুনা ঙাঙবগী অর্থদা ইগদবা।            | ৩                   | ৩           |
|        | <b>কাঙলুপ - খ</b><br><b>(পাবা)</b>                                             |                     |             |
| ২      | ক) ফত্তবা অমনা ময়ানু চেহুহল্লি হায়বগী অর্থ পীরগা শন্দোক্কা ইগদবা।<br>নংত্রগা | ১+৬                 | ৭           |
|        | খ) মফম:                                                                        | ১                   |             |
|        | মতম :                                                                          | ১                   |             |
|        | টু,                                                                            | ১                   | ৭           |
|        | ইকাইখুম্বা উৎপা,                                                               | ১                   |             |
|        | বাবোল                                                                          | ২                   |             |
|        | সহী                                                                            | ১                   |             |
|        | <b>কাঙলুপ - গ</b><br><b>(গ্রামার অমসুং কম্পোজিসন)</b>                          |                     |             |
| ৩      | হায়জ-য়াথং খঙনবা।                                                             | ১                   | ১           |
| ৪      | ঐনা ইমান্নবা অমদা মরুপ হায়না কৌরগা ফিদাদা ফম্মু হায়খি।                       | ১                   | ১           |
| ৫      | য়ান্নবা ব্রাইপরেংনি।                                                          | ১                   | ১           |
| ৬      | ওবজেক্টনি।                                                                     | ১                   | ১           |

| Q. No. | Value Point/Key/Outline Answer                                                                                                                        | Mark for each point | Total Marks |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| ৭      | অর্থ - হোতনবা পূন্না, অরেন্না ওইবা অর্থ পীরগা রাইপরেং শেমগদবা                                                                                         | ১+১                 | ২           |
| ৮      | (ক)/(খ) রাইদোক<br>নৈনবা বারোল<br>বারেইশিন।                                                                                                            | ২<br>৪<br>২         | ৮           |
|        | কাঙলুপ - ঘ<br>(সাহিত্য)                                                                                                                               |                     |             |
| ৯      | (ক)/(খ) যাওফম তাকপা<br>মরী-মখোঙ তাকপা<br>শন্দোক্কা তাকপা<br>রাইগী মশক তাকপা (এনোটেন)                                                                  | ১<br>১<br>৪<br>১    | ৭           |
| ১০     | নোংদোন কাগে খনবা।                                                                                                                                     | ১                   | ১           |
| ১১     | মপাঙ্গল লৈবা, লৈঙাক-শাসন হৈবা মীওইবুনি।                                                                                                               | ১                   | ১           |
| ১২     | জগৎ অসিদা শান্তি অমসুং অচুম্বা লৈতবা উবদগীনি।                                                                                                         | ২                   | ২           |
| ১৩     | নোংচুপলোমগী চংনবীনা ভারতকী মফম খুদিংদা শাফু কন্না হুমজিল্লকপদগী<br>ভারতকী মনুংদা লৈবা অশোনবা লৈবাক কয়াদা চৈথেং পীরকপবু নোংলৈ-<br>নুংশিংকা চাংদম্মরি। | ৩                   | ৩           |

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mark for each point | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| ১৪     | চুম্বি।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ১                   | ১           |
| ১৫     | অইচ.আই.ভি. মহীক্লা হকচাংদা চঙখ্ৰগা হকচাংগী ইমুন সিস্টেম শোহুহল্লগা নারকই।                                                                                                                                                                                                                                                                                                                                                                                                                               | ১                   | ১           |
| ১৬     | চিংগী ইমাগী লাইবজা শমগী মরি ফাওদোভুনা হুমাং তপ-তপ তাবা উৰুদগীনি।                                                                                                                                                                                                                                                                                                                                                                                                                                        | ১                   | ১           |
| ১৭     | বিজ্ঞান পুথোরকপা এটোমগী শক্তিবু ফণ্ডবদা শিজীন্নরকুবদি মাঙ-তাক্ৰিংঙাই মশক্ৰি।                                                                                                                                                                                                                                                                                                                                                                                                                            | ২                   | ২           |
| ১৮     | টেরোরিজম হায়বসি আইন্বা যাদবা, মিনুংশি যাওদবা, গণতন্ত্ৰিক ওইদবা অমনি। ভারতকী সংস্কৃতিদি নুংশিবা, অচুন্স্বা অমসুং অহিংসা হায়বা অসিগদি ওন্ন-তৈনরে হায়বসিনি।                                                                                                                                                                                                                                                                                                                                             | ৪                   | ৪           |
| ১৯     | (ক) চিংমী অয়াম্বগী খুনগী ব্রায়েল-বিচারগী থবক পুরিবা অঙম্বশিংবু<br>‘খুনবু খুল্লাক’ হায়না খঙনৈ। তম্বিশিংগী মনুংদসু খুরখুন, সেকমাই, অন্দ্রোনচিংবা মফমদা ‘খুনবু খুল্লাক’ লৈরি। তমগী পানা লাকপগা চিংগী খুল্লাকপগা মওং-মতৌ অমসুং মথৌ মাইনৈ।<br><br>(খ) কমল লাইরিক ফবা তুংগী আশা লৈবা মহৈরোয়নি। খুঙ্গদা লৈবা মখুরাগী ময়ুমদা লৈরিঙৈদা মী খংনবা খাম্বুদা মখুদাংদা শোভুনা ঈ য়ান্না থোকখি। টেষ্ট তৌদবা ঈ লীক্ৰি অমা লৈদুনা কাপখিবদগী আইচ.আই.ভি. পোজিটিভ ওইরে খঙলকপদগী মথায় নুংঙাইতদুনা শিজনবা হোংনরল্লিবনি। | ৮                   | ৮           |

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Mark for each point | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| ২০     | নুপীশিং লাইরিক হৈবা, মশাগী শেহ্লোক লৈজদুনা নুপাগী মপাল তাংদবদগীনি।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ১                   | ১           |
| ২১     | মিটার ৭৬০০ কী মথক্তা রাংবা ওজ্জিজন রাংপা মফস্তু খঙনৈ।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ১                   | ১           |
| ২২     | খঙহৌদনা থোকপা খুদোংথিবা অমসুং অরা-অনাবু খঙনৈ। খঙহৌদনা থোকপা খুদোংথিবা মখল অনি লৈ মদুদি- খুংশেমগী ওইবা অমসুং মহৌশাগী ওইবা।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ৪                   | ৪           |
| ২৩     | <p>(ক) ভারত নুপীগী ফিভম হাইগৎলক্লিবা অসিদি খুং থেতুনা পাবা য়ারে। নুপাশিংনা নুপীশিংবু হুহুনা য়েংবগী হৈনবী লৈরি। মচানুপী পোকপা হরাওনদে। মমাঙউদা হেক পোকপগা মচানুপী হাংপগী চৎনবী লৈরম্বগী মওংগুম বিজ্ঞানগী মতেংনা পুন্সুংদা অঙাং মাঙহনবগী মওং লৈরি। অউনপোৎকী চৎনবী লৈরি। সহরদা লৈবা নুপীগী ফিভমদগী খুঙ্গংগী নুপীনা হুহুরি। ইমুংগী থবক-থৌওং নুপাগী অপাম্বগী মওং য়েংলগা তৌনরি।</p> <p style="text-align: center;">নংত্রগা</p> <p>(খ) নুংশিবা, তাথিবা, নুংঙাইবা, অরাবা, কিবা, থাজবা, থানবা য়াদ্রবা মীওইবগী থম্মোই অমসুং রাখলগী শরুক্লি। মখোয়সি মালেমগী ফাওরবা সাহিত্যশিংনা লেঙদ্রবা শাক্ফি ওইদুনা লৈরি। হোমরগী ইলিয়দ, বাল্মিকিগী রামায়ন, ব্যাসগী মহাভারত, কালিদাস অমসুং সেক্সপিয়ারগী ড্রামাশিং পারুবদা থম্মোইদা অরাবা, নুংঙাইতবা, থুক লাউবা, রাহন্দবা য়াওদে। কালিদাস অমসুং সেক্সপিয়ারগী ড্রামাশিংনা ইনখৎলক্লিবা খুদিংদা নুংঙাইবা পীরিবা কয়াসিনা মরম ওইদুনা মালেমগী জাতিগী মান্নবা রাখলনা লীচিং ওইদনা পানরি।</p> <p style="text-align: center;">-----</p> |                     |             |



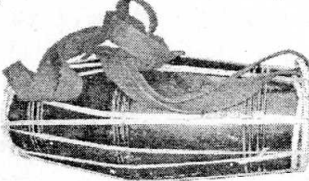


## SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME

**Subject and Paper :- Esei-Nongmai**

[illegible]



| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                  | Mark for each point | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| ૯૦     | <p> તેમના સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ<br/> લોકોને મળે. સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની<br/> સગવડ મળે. સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની<br/> સગવડ મળે. </p>  | ૩+૨                 | ૫           |
| ૯૧     | <p> બાળકો અને સ્ત્રીઓને સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની<br/> સગવડ મળે. સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની<br/> સગવડ મળે. </p>                                                                                                                                    | ૨+૨                 | ૪           |
| ૯૨     | <p> સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. સ્વચ્છ<br/> શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. સ્વચ્છ શ્રમ<br/> સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. </p>                                                                                                     |                     |             |
| ૯૩     | <p> સ્વચ્છ શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. સ્વચ્છ<br/> શ્રમ સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. સ્વચ્છ શ્રમ<br/> સ્થળે અને સ્વચ્છ પાણી પીવાની સગવડ મળે. </p>                                                                                                     |                     |             |



| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mark for each point | Total Marks |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| ૬૪     | ભોજા સંબંધી ઉપસંહાના ઢેસેટાની જલ્લુસ ઢેસેન ભૂકેસી યાજ ઢવતાઢ નસુ ॥                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ૧                   | ૧           |
| ૬૧     | Prescribed book સંજાં ભોજાભીય યભીજાં ડાંતિસઢી ઢેસેન ઢવતાઢ નઢ ॥                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ૧                   | ૧           |
| ૬૧     | ઢાસેભ' :-<br>1 2 3 4 5 6 7 8 9 10 11 12 13 14<br>ઢા ઢાં જ ઢાં જ / ઢે જાઢ જા જાં જ / જાં જ જાં જાઢ<br>ઢાસેભ' :-<br>1 2 3 4 5 6 7 8 9 10<br>ઢિઢ ઢે જાંભાઢી / ઢાં ઢાં ઢોજા જાંભાઢી / જાં ઢે જાંભાઢી<br>11 12 13 14<br>ઢાં ઢાં ઢોજા જાંભાઢી<br>ઢાંભે :-<br>1 2 3 4 5 6 7 8 9 10 11 12<br>ઢે ઢે / જાં ઢે / ઢાં ઢે / જાં ઢે / ઢાં ઢે / જાં ઢે / જાં ઢે<br>X 0 2 0 3 4<br>જાંભે :-<br>1 2 3 4 5 6 7<br>ઢે ઢાં ઢે / જાં ઢે / જાં ઢે / જાં ઢે / જાં ઢે<br>જાંભે :-<br>1 2 3 4 5 6 7 8 9 10 11 12 13 14<br>ઢે ઢાં જાં / ઢે ઢે ઢાં જાં / જાં જાં જાં / ઢે ઢે ઢાં જાં | ૧                   | ૧           |
| ૬૪     | Prescribed book સંજાં ભોજાભીય યભીજાં ઢાંભે નાજઢાં ॥                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ૧                   | ૧           |





5. Why is life insurance not a contract of indemnity ? 2

জীবন বীমা চুক্তি ক্ষতিপূরণের বীমা চুক্তির মতো নয় ?  
করমা লাইফ ইন্স্যুর্যান্স অসি কন্ট্রাক্ট ওফ ইন্ডেমনিটি ওইদ্রিবনো ?

Answer Qeustion Nos. 6 to 11 in about 40 words.

6. How is Entrepot trade operated ? 3

এন্ট্রপোট ট্রেড কীভাবে পরিচালিত হয় ?  
এন্ট্রিপোর্ট ট্রেড করমা পাওথোকপগে ?

7. Write any three facilities the bank gives to a fixed deposit holder. 3

ব্যাংক ফিক্সড ডিপোজিট হোল্ডারকে দেয় এমন তিনটি সুবিধা  
বেঙ্কনা, ফিক্সড দিপোজিট হোল্ডার অমদা পীবা কানবা অহুমদং ইয়ু।

8. Write the three objects of making an offer. 3

একটি প্রস্তাব দিতে তিনটি উদ্দেশ্য  
ওফর অমা ইবগী পান্দম অহুমদু করি করিনো ইরকউ।

9. Name three accounts which may appear to the credit side of Trading Account. 3

ট্রেডিং একাউন্ট ক্রেডিট কী নাকন্দা থাবা যাবা একাউন্ট অহুমদং উরকউ।  
স্ট্রংসশ্য অপ্রোভিডেড অ্যাকংসশ্য ট্রান্সফার অসচ নৈচ অপ্রোভিডেড অসচ অপ্রোভিডেড।

10. What are the purposes of the following items in a marine insurance ? 3

(a) Hull insurance (b) Cargo insurance (c) Freight insurance

জাহাজ বীমা, মালামাল বীমা, ফ্রাইট বীমা  
জাহাজ বীমা, মালামাল বীমা, ফ্রাইট বীমা  
মখাদা পীরিবা মেরিন ইন্স্যুরেন্সকী আইটেমশিং অসিগী মথৌ করিনো ?  
ক) হল ইন্স্যুরেন্স, খ) কারগো ইন্স্যুরেন্স, গ) ফ্রাইট ইন্স্যুরেন্স



15. How can customers account in the bank be closed ? 4

চাৰুকাৰীৰ ব্যক্তিগত ব্যৱহাৰৰ বাবে ব্যক্তিগত কালেক্টৰীয়া নথী ?

বেংকত লৈবা কষ্টমৰগী একাউন্ট অমা কৰমা মুখ্যতাপা যাবগে ?

16. Draw a specimen of a cheque using the following items : 4

মুঠৰ ব্যক্তিগত ব্যক্তিগত ব্যৱহাৰৰ বাবে ব্যক্তিগত কালেক্টৰীয়া নথী এটা আঁকি দিয়া ।

মখাদা পীৰিবা বারোলশিং অসি শিজীমদুনা চেক অমগী স্পেসিমেণ্ট ফোৰ্ম অমা শেম্মু :

- (a) Drawer : Ramu, Imphal
- (b) Payee : S. Arun Singh
- (c) Date : February 25, 2018
- (d) Amount : Rs. 5000.

Answer and solutions for Question Nos. 17 and 18 should be given as required in the questions.

17. From the given information, prepare a Trial Balance : 8

মুঠৰ ব্যক্তিগত ব্যক্তিগত ব্যৱহাৰৰ বাবে ব্যক্তিগত কালেক্টৰীয়া নথী এটা আঁকি দিয়া :

মখাদা পীৰিবা বারোলশিং অসিদগী ব্ৰাইয়েল বেলেঞ্চ অমা শাদোকড :

| Particulars         | Rs.      | Particulars      | Rs.    |
|---------------------|----------|------------------|--------|
| Opening Stock       | 15,000   | Bills receivable | 12,000 |
| Capital             | 60,000   | Debtors          | 20,000 |
| Wages               | 30,000   | Return outward   | 2,000  |
| Sales               | 1,60,000 | Creditors        | 5,000  |
| Salaries            | 10,000   | Bills Payable    | 9,000  |
| Return inward       | 5,000    | Discount allowed | 3,000  |
| Purchases           | 1,05,000 | Carriage inward  | 3,000  |
| Commission received | 6,000    | Case in hand     | 2,000  |
| Machinery           | 37,000   |                  |        |

18. Different items are given to you. From it prepare a Balance sheet making adjustments with additional information as at 31-12-2017 : 8

ନିମ୍ନଲିଖିତ ବିବରଣୀଗୁଡ଼ିକ ଦିଆଯାଇଛି । ଏଥିରେ ଉପଯୋଗୀ ସମସ୍ତ ତଥ୍ୟ ଉପରେ ଆଧାର କରି ୩୧-୧୨-୨୦୧୭ ଡିସେମ୍ବରରେ ବେଲେନ୍ସ ଶୀଟ୍ ତିଆରି କର ।

ମଧ୍ୟାହ୍ନ ଖାଦ୍ୟ ଉପରେ ଉପଯୋଗୀ ଏଜିଟେମେଣ୍ଟ (ହାପଟିନଗଦବା) ମ୍ୟାମସିଗା ପୂନା ଲୌଗା ବେଲେନ୍ସ ଶୀଟ୍ ତିଆରି କର ।

| Particulars         | Rs.    | Particulars  | Rs.    |
|---------------------|--------|--------------|--------|
| Purchases           | 40,000 | Sales Return | 2,000  |
| Commission received | 2,100  | Wages        | 8,000  |
| Capital             | 30,000 | Salaries     | 2,000  |
| Bills payable       | 1,000  | Machinery    | 10,000 |
| Interest paid       | 700    | Building     | 18,000 |
| Opening stock       | 7,000  | Creditors    | 10,000 |
| Sales               | 50,000 | Cash         | 2,000  |
| Debtors             | 10,000 | Bad Debts    | 600    |

#### Adjustments :

1. Closing Stocks – Rs. 20,000
2. Outstanding – Rs. 400
3. Depreciate building at 10% p.m.
4. Amount of Net profit – Rs. 16,800.

Answer for Question Nos. 19 to 28 may be as short as possible.

19. Name one advantage of current account to a depositor. 1

ଉପଯୋଗୀ ଏକାଉଣ୍ଟର ଉପଯୋଗୀ ବିବରଣୀ କଣ ? ଉଦାହରଣ ଦିଅ ।

କରେଣ୍ଟ ଏକାଉଣ୍ଟର ଉପଯୋଗୀ ବିବରଣୀ କଣ ? ଉଦାହରଣ ଦିଅ ।



20. What is unsolicited enquiry ? 1  
অসolicitকৃত তথ্য সংগ্রহের চেষ্টা?   
অনসোলিসিটেড ইনকুয়ারি হায়াবসি করিনো ?
21. On which side of profit and loss account will commission on sales be recorded ? 1  
প্রোফিট অন্ড লোস একাউন্টকী কমিসন নাকন্দা কমিসন ওন সেলস অসি চনসিনগদগে ?
22. Who may run warehousing and storing departments ? 1  
স্টোরেজ অন্ড স্টোরিং ডিপার্টমেন্টস কীরা চলাইব যাবগে ?
23. How can a bearer cheque be made an order cheque ? 1  
মতৌ করিয়া বিয়ারার চেকপু ওর্ডার চেক ওনবা যাগদগে ?
24. What is automatic teller machine ? 1  
অটোমেটিক টেল্লার মেশিন হায়াবসি করিনো ?
25. What is the importance of subrogation in an insurance ? 1  
ইন্সুরেন্স অমদা সব্রোগেশনগী মরু ওইবদু করিনো ?
26. Why is packing necessary in sending goods ? 1  
পোং অমা থাবদা পেকিং তৌনরিবা করিগীনো ?



27. The amount of creditors is Rs. 20,000. Reserve for discount on creditors is 2% p.m. Show the entry at the end of the year. 1

ঋণগ্রহীতারদের মোটের পরিমাণ: ২০,০০০ টাকা। ঋণগ্রহীতারদের উপর প্রতি মাসে ২% ছাড়ের প্রস্তুতি রাখা হয়েছে।

বকেলায় ঋণগ্রহীতারদের মোটের উপর ২% ছাড়ের প্রস্তুতি রাখা হয়েছে।

ক্রেদিতরগী এমাইন্ডেট অদু লু: ২০০০০ নি। রিজার্ভ ফোর দিসকাউন্ট ওন ক্রেদিতসনা চাদা চহীদা ২নি।

চহীগী অরোয়বদা তৌগদবা এন্ট্রি অদু উৎলু।

28. What does a prompt reply of an enquiry suggest ? 1

চন্ড্রসন্ধানের দ্রুত জবাব দেওয়া সন্ধানের প্রমাণিত ?

ইনকয়ারীগী মপুং ফাবা পাউখুমা তাক্লিবসি করিনো ?

To answer Question Nos. 20–34, choose the correct alternatives and rewrite.

29. A cheque which can not be encashed at the counter of the bank, is known as \_\_\_\_\_ 1

চাংযাংযাং প্রকল্পের প্রকল্প যাংগে দেসস সংযাং প্রকল্প ----- প্রকল্প।

বেঙ্ককী কাউন্টারদা কায়থোকপা যাদবা চেক অদুবু - - - - - কৌই।

- a) Order cheque.

অর্ডার সংযাং।

ওর্ডার চেক।

- b) Crossed cheque

ক্রসড সংযাং।

ক্রস চেক।

- c) Bearer cheque

বারার সংযাং।

বিয়ারার চেক।

30. The insurance policy which covers losses or damages from multiple reasons, is called \_\_\_\_\_.

କଢ଼ନ କଢ଼ାବୀ କଢ଼ାମ ଉତ୍ତରକଢ଼ାପ କଢ଼ାମ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ  
 ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ ଓକିଲ

মখল মথেনগী মরম কয়ামুকা মরম ওইদুনা থোরকপা অমাঙ-অতা কয়াবু য়েংশিল্লিবা ইসুরেস পোলিসি  
মখল অদুবু ----- কোই।

a) Replacement policy.

අරිඤ්ඤාංගසංඝ්‍රහ ආරෝපිතී ॥

রিপ্লেসমেন্ট পোলিসি।

b) Floating policy.

உத்யோயம் நாரதரிஷி ||

ফ্রাটিং পোলিসি।

c) Comprehensive policy.

ਸਮਾਜ-ਨਿਰਮਾਣ ਸਾਹਿਤ ॥

কম্প্রহেন্সিব পোলিসি।

31. The central part of business correspondence is \_\_\_\_\_.

ਚਾਟਿਓਂਗਲੀ ਜਲ੍ਹਾਏਰ ਸਮਿਥੀ ----- ਘੋਰ ॥

বিজনেসকী মরুওইবা চিঠিদি ----- ওই।

a) Offer Letter.

ਭੋਖਾਨਾ ਸਿਟਿ ॥

ওফরগী চিঠিনা ।

b) Order Letter.

ਭੋਮਕਾਏ ਸਿੰਘ ॥

ଓର୍ଦ୍ଦରଗୀ ଚିଠିନା ।

c) Enquiry Letter.

ਨਟਯਾਤ੍ਰੇਈ ਸਮਿਪਿਟ ॥

ইনকারিগী চিঠিনা।

32. Commercial banks do not cover \_\_\_\_\_.

1

କ୍ଷମକର୍ମାଗାରୀୟ ଚାଷ୍ୟାଞ୍ଚାଳିତ କ୍ଷମକର୍ମାଗାରୀୟ ----- ମଣ୍ଡଳ ।

କମ୍ପ୍ୟୁଟର ବେଞ୍ଚକୀ ମନୁଦା ----- ଚନ୍ଦ୍ର ।

a) Urban cooperative banks.

ଫେଡେରାଲ କ୍ଷମକର୍ମାଗାରୀୟ ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ଅରବନ୍ଦ କୋଓପରେଟିଭ ବେଞ୍ଚ ।

b) State banks.

ରାଜ୍ୟ ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ଷ୍ଟେଟ ବେଞ୍ଚ ।

c) Nationalised banks.

ଫେଡେରାଲ ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ନେସନେଲାଇଜ ବେଞ୍ଚ ।

33. Indemnity means \_\_\_\_\_.

1

କ୍ଷମକର୍ମାଗାରୀୟ ଫେଡେରାଲ ----- ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ଇନ୍ଦେମନିଟିଗୀ ଅର୍ଥାତ୍ ----- ହାସଲ ।

a) trust and confidence.

କ୍ଷମକର୍ମାଗାରୀୟ ଫେଡେରାଲ ।

ଶୋୟଦବା ଅମସୁଂ ଥାଜବା ।

b) to make good of the loss suffered.

କ୍ଷମକର୍ମାଗାରୀୟ ଫେଡେରାଲ ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ମାଞ୍ଜିବା ପୋଂ ଅଦୁ ଅମୁକ ହଜିନବା ।

c) to reduce the loss of the subject matter.

କ୍ଷମକର୍ମାଗାରୀୟ ଫେଡେରାଲ ଚାଷ୍ୟାଞ୍ଚାଳିତ ।

ମାଞ୍ଜିବା ସବଜେକ୍ଟ ମେଟର ଅଦୁଗୀ ଶରକ ହଜିନବା ।

34. Letter of complaint comes \_\_\_\_\_.

1

অসন্তোষপত্রী মর্মেতি ----- টাইপাটী ॥

কমপ্লেণ্টকী চিঠিদি ----- লাকপনি।

a) after the quotation is received.

অন্যোক্ত E'টচ সন্মত ॥

কোটেশন ফংলবা মতুংদা।

b) after order is sent.

অ'প্র'প্র' প্র'প্র' সন্মত ॥

ওর্দর থাপ্রবা মতুংদা।

c) after the goods are checked.

প্র'প্র' প্র'প্র' সন্মত ॥

পোং অদু চেক তৌরবা মতুংদা।

# SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME

Subject and Paper :- **Commerce [Class-X]**

| Q. No. | Value Point/Key/Outline Answer                                                                                                               | Mark for each point | Total Marks |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 1.     | a) Insurer (Insurance Company) &<br>b) Insured (an individual/group of peoples)                                                              | 1<br>1              | 2           |
| 2.     | Payment of loan with interest whether the loan has been properly used/not.                                                                   | 2                   | 2           |
| 3.     | Correct filling of forms as done previously.<br>Not necessary for new words or terms.                                                        | 2                   | 2           |
| 4.     | a) Education, knowledge of the goods.<br>b) Quality and other information.                                                                   | 1<br>1              | 2           |
| 5.     | a) It cannot return the lost life.<br>b) Only some maintainable amount is given.                                                             | 1<br>1              | 2           |
| 6.     | a) First the required goods are imported with reasonable quantity.<br>b) They are again modified and reconstructed and exported.             | 1½<br>1½            | 3           |
| 7.     | a) High rate of interest is allowed.<br>b) Used as a security for other borrowers.<br>c) Premature withdrawals are allowed on special cases. | 1<br>1<br>1         | 3           |
| 8.     | a) To open new markets.<br>b) To make dull market active.<br>c) To create new relationship with firms.                                       | 1<br>1<br>1         | 3           |
| 9.     | a) Sales Account<br>b) Closing Stock<br>c) Gross Loss                                                                                        | 1<br>1<br>1         | 3           |

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                              | Mark for each point | Total Marks |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 10.    | a) The Body of the ship is insured.                                                                                                                                                                         | 1                   |             |
|        | b) To protect from perils and save cargo goods from insurance.                                                                                                                                              | 1                   | 3           |
|        | c) To save freight or carrying charge from insurance company.                                                                                                                                               | 1                   |             |
| 11.    | To be calculated on Sales : Rs. 1,60,000.<br>(Calculation should be shown)                                                                                                                                  | 3                   | 3           |
| 12.    | Simple signing a cheque.<br>Transfer the cheque to somebody.<br>A bearer is not necessary for endorsement. Order cheque must be endorsed before presenting to the bank. (Proper explanation required).      | 4                   | 4           |
| 13.    | Total amount of the machine : Rs. 60,000<br>Depreciation : Rs. 6000<br>Depreciation A/C ..... Dr.      6000<br>To Machine A/C .....      6000<br>[Being the machine depreciated]<br>Narration is essential. | 1<br>2<br>1         | 4           |
| 14.    | Meaning : Engaged in activities of extraction, reproduction and developments of plants and other living organisms.<br>Example : Extractive industries &<br>Genetic industries.                              | 2<br>2              | 4           |
| 15.    | a) to inform the banker in writing his intention to close.<br>b) Bank account not operated for many days.<br>c) Breaking Bank Rules.<br>d) Customer dies, unsound mind, etc.<br>[With brief explanation]    | 1<br>1<br>1<br>1    | 4           |
| 16.    | A specimen cheque is to be drawn :<br>Insert there in the required information.                                                                                                                             | 2+2                 | 4           |

| Q. No.                                                                                                            | Value Point/Key/Outline Answer                                                                                                                                                  | Mark for each point | Total Marks |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 17.                                                                                                               | Correct putting of the given items.<br>The two sides are to be equal. Correct total 242000<br>Process marking may be made.                                                      | 8                   | 8           |
| 18.                                                                                                               | To be shown : Calculation of Depreciation<br>Net Profit should be used in Balance Sheet<br>Closing Stock and outstanding wages are to be used.<br>Process marks may be awarded. | 8                   | 8           |
| 19.                                                                                                               | Overdraft can be taken                                                                                                                                                          | 1                   | 1           |
| 20.                                                                                                               | Buyer's own initiative to get some knowledge/information.                                                                                                                       | 1                   | 1           |
| 21.                                                                                                               | Debit side, it is an expenses.                                                                                                                                                  | 1                   | 1           |
| 22.                                                                                                               | Private/Public and Govt. undertakings (any one).                                                                                                                                | 1                   | 1           |
| 23.                                                                                                               | By cutting the word bearer.                                                                                                                                                     | 1                   | 1           |
| 24.                                                                                                               | Modern technique of taking money with a Card etc.                                                                                                                               | 1                   | 1           |
| 25.                                                                                                               | Under this the insurer has the right to take the goods after giving the insurance money to the insured.                                                                         | 1                   | 1           |
| 26.                                                                                                               | It is for security, protection of the goods.<br>It is for beautifaction and confidence. (Any other).                                                                            | 1                   | 1           |
| 27.                                                                                                               | Reserve for Discount on Crs A/c Dr 400<br>To Profit and loss A/c ..... 400<br>[Being for making reserve on Creditors.]                                                          | 1                   | 1           |
| 28.                                                                                                               | The seller is fully conversant and has respect to the buyer.                                                                                                                    | 1                   | 1           |
| 29.                                                                                                               | b) Crossed cheque.                                                                                                                                                              | 1                   | 1           |
| 30.                                                                                                               | c) Comprehensive policy.                                                                                                                                                        | 1                   | 1           |
| 31.                                                                                                               | b) Order letter.                                                                                                                                                                | 1                   | 1           |
| 32.                                                                                                               | a) Urban cooperative banks.                                                                                                                                                     | 1                   | 1           |
| 33.                                                                                                               | b) To make good of the loss suffered.                                                                                                                                           | 1                   | 1           |
| 34.                                                                                                               | c) After the goods are checked.                                                                                                                                                 | 1                   | 1           |
| N.B.: Students may get marks if his answer is correct. It does not matter, the answer includes in the key or not. |                                                                                                                                                                                 |                     |             |





2018  
MANIPURI JAGOI (DANCE)

Full Marks - 48

Pass Marks - 12

Time: Two hours

সেই জ্ঞানীয়সম্পদ জ্ঞানসম্পদ।

সেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।

- ১। সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ২। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৩। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৪। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৫। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৬। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৭। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৮। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ৯। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১
- ১০। অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই যেইসেই সেইসেই জ্ঞানীয়সম্পদই।  
অর্থাৎ সেইসেই জ্ঞানীয়সম্পদই। ১

Contd.

- 90 || ටෙරු භවෙසුරාණි ජිවිතසා මධ්‍ය ජිවිත පුනර්ථ ජිවිතෙ ? පුනර්ථ ජිවිතෙ ? 9
- 91 || ඔබගේ ඔබගේ ජිවිතසා මධ්‍ය ජිවිත පුනර්ථ ජිවිතෙ ? පුනර්ථ ජිවිතෙ ? 9+9=8
- 92 || ගාමකා ගාමක පරිච්ඡේද ගාමක පරිච්ඡේද සුභාසි සුභාසි ඔබ ? 8
- 93 || ටෙරු භවෙසුරාණි ගිවිසිල පරිච්ඡේද (පරි-පරිච්ඡේද) පරිච්ඡේද සුභාසි සුභාසි 9
- 94 || ටෙරු භවෙසුරාණි ජිවිතසා මධ්‍ය ජිවිත පුනර්ථ ජිවිතෙ ? 9
- 95 || ඒවා-ඒවා ජිවිත පරිච්ඡේද පරිච්ඡේද ? ජිවිත ගාමක සුභාසි සුභාසි ගාමකා ගිවිසිල පරිච්ඡේද ? 8
- 96 || පරිච්ඡේද පරිච්ඡේද ඔබ ගාමක ? සුභාසි ගාමක පරිච්ඡේද ? 9
- 97 || පරිච්ඡේද ජිවිත සුභාසි ජිවිත පරිච්ඡේද ? සුභාසි සුභාසි පරිච්ඡේද ? 9
- 98 || ඒවා ජිවිත සුභාසි ජිවිත පරිච්ඡේද ? සුභාසි පරිච්ඡේද පරිච්ඡේද ? 9
- 99 || ටෙරු භවෙසුරාණි පරිච්ඡේද ගාමක පරිච්ඡේද සුභාසි සුභාසි ගාමක පරිච්ඡේද ? 9
- 100 || පරිච්ඡේද ගාමක පරිච්ඡේද ගාමක පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- පරිච්ඡේද
- සුභාසි ගාමක පරිච්ඡේද පරිච්ඡේද සුභාසි සුභාසි පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 101 || ටෙරු භවෙසුරාණි පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9+9=8
- 102 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 103 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 104 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 105 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 106 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 107 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 108 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9
- 109 || පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද පරිච්ඡේද ? 9

**2018**

**FINE ARTS**

**Full Marks - 48**

**Pass Marks - 12**

**Time: Two hours**

*All questions are compulsory.*

*The figures in the right hand margin indicate full marks for the questions.*

*Answer in your own words as far as practicable.*

*For question Nos. 1 to 6, choose the correct answer and rewrite them.*

1. The method of printmaking in which the finished prints often resemble water-color drawing is called \_\_\_\_\_. 1
  - a) Mezzotint
  - b) Drypoint
  - c) Aquatint
  - d) Linocut
2. Which material should be used to produce a sculpture which is less brittle, cheaper, and lightweight ? 1
  - a) Bronze
  - b) Fibreglass
  - c) Stone blocks
  - d) Wood blocks

**Contd.**

3. The art and practice of planning, projecting ideas, experience with visual and textual content is called \_\_\_\_\_. 1
- a) Fashion design
  - b) Graphic design
  - c) Decorative design
  - d) Industrial design
4. The traditional art of Manipur was illustrated in \_\_\_\_\_. 1
- a) Manuscripts
  - b) Wall paintings
  - c) Stone carving
  - d) Wood carving
5. Which phase of Bhadra's painting depicts culture and tradition during those days ? 1
- a) 1<sup>st</sup> Phase
  - b) 2<sup>nd</sup> Phase
  - c) 3<sup>rd</sup> Phase
  - d) Both 1<sup>st</sup> and 2<sup>nd</sup> Phase

6. The famous bronze icon of the Chola period is \_\_\_\_\_. 1
  - a) Shiva and Parvati
  - b) Sembiyan Mahadevi
  - c) Nataraja
  - d) Dancing Girl
7. What is clay modeling ? 1
8. Where was the 1<sup>st</sup> phase of Bhadra's painting used ? 1
9. What influence the contemporary art of Manipur during the early 70s ? 1
10. Why Mathura school of art is renowned worldwide ? 1
11. Which geographical region was the heartland of the Cholas ? 1
12. What is lithography ? Mention one application of lithography. 2
13. What is Applied art ? Mention one field of Applied art. 2
14. When was the Art school became a college ? What was its main aim ? 2
15. What are the popular arts of the Mauryan Period ? 2
16. Why the contemporary art in Manipur was at its minor state in comparison to other states ? 2
17. Mention any three materials used in mold making. 3

18. Give a short comment on contribution of Artist in the field of Art and Art education in Manipur. 3
  19. Analyze three characteristics of sculptures of seated Buddhas during the Mathura School of Art. 3
  20. What are the distinctive features of Gandhara style of Buddhist art ? 3
  21. Explain the tools and techniques of acrylic painting. 5
  22. Write a short note on the first traditional art of Manipur. 5
  23. Describe the technique of painting in Ajanta cave. 5
-

# SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME

Subject and Paper :- Fine Arts (Theory)

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                 | Mark for each point | Total Marks |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 1.     | (c) Aquatint                                                                                                                                                                                   | 1                   | 1           |
| 2.     | (b) Fiber glass                                                                                                                                                                                | 1                   | 1           |
| 3.     | (b) Graphic design                                                                                                                                                                             | 1                   | 1           |
| 4.     | (a) Manuscripts.                                                                                                                                                                               | 1                   | 1           |
| 5.     | (b) 2nd phase                                                                                                                                                                                  | 1                   | 1           |
| 6.     | (c) Nataraja                                                                                                                                                                                   | 1                   | 1           |
| 7.     | Creation of a 3-dimensional piece of art typically using some type of clay.                                                                                                                    | 1                   | 1           |
| 8.     | Decorations of mandapas of Brahmin families, sangoi, etc.                                                                                                                                      | 1                   | 1           |
| 9.     | Influence by Bengal School of Painting of Tagore family, Ananda Coomaraswamy, Ajanta Painting, European paintings. (any one)                                                                   | 1                   | 1           |
| 10.    | Renowned worldwide for its vivacity and assimilative character of Indian themes.                                                                                                               | 1                   | 1           |
| 11.    | Fertile valley of the Kaveri River.                                                                                                                                                            | 1                   | 1           |
| 12.    | Lithography is a method of printing originally based on the immiscibility of oil and water.<br>Application – to print text or art work onto paper or other suitable material.                  | 1+1                 | 2           |
| 13.    | Application of design and decoration to everyday use objects to make them aesthetically pleasing.<br>The fields are Industrial design, graphic design, fashion design, etc. (Any one of them). | 1+1                 | 2           |



| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                 | Mark for each point | Total Marks |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 14.    | The Art School became College in 1956. Its main aim was to enhance the movement of art in Manipur.                                                                                                                                             | 1+1                 | 2           |
| 15.    | Popular art of Mauryan period are Terracotta objects of various sizes consisting of primitive idols, toys, dice, ornaments, images of folk Gods and Goddesses. (Any two).                                                                      | 1+1                 | 2           |
| 16.    | The artist lacks exposure to the advanced art methods, lacks of communications with the artist of the rest of the world, lack of patronage and prospects (Any two).                                                                            | 1+1                 | 2           |
| 17.    | Materials used in mold making are– plaster (Gypsum), latex rubber, paste maker, moulage, gelatin, white rubber, polymer, etc. (Any three of them).                                                                                             | 1+1+1               | 3           |
| 18.    | Many artist had undergone training programme in various art colleges and universities of India.<br>Winner of many awards and several prestigious awards.<br>Many artist are specialized in fine arts, commercial design, graphics, etc.        | 3                   | 3           |
| 19.    | Shoulders are broad, the chest swells, legs are firmly planted with feet spaced apart. Shaven head, round smiling face, right arm raised, left arm akimbo or resting on thigh, lion throne, etc. (Any three points).                           | 1+1+1               | 3           |
| 20.    | Gandhara style of Buddhist are developed out of merger of Greek, Syrian, Persian and Indian artistic influence.<br>– Represented Buddha with a youthful Apollo-like face.<br>– Dressed in garments resembling those of Roman imperial statues. | 3                   | 3           |



| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Mark for each point | Total Marks |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 21.    | <p>Acrylic paints are fast drying paints the pigment is suspended in acrylic polymer.</p> <ul style="list-style-type: none"> <li>- Diluted with water.</li> <li>- Applied to surfaces such as paper, acrylic primed board, canvas, etc.</li> <li>- Variety of brushes use, painting knives, rollers, air brushes, etc.</li> <li>- Versatility makes them suitable for many techniques.</li> <li>- Can resemble watercolour or an oil painting.</li> <li>- Special effects such as glazing and imparts.</li> </ul>                                                                                                                              | 5                   | 5           |
| 22.    | <p>First traditional art of Manipur belongs to the vast Manuscript illustrations.</p> <ul style="list-style-type: none"> <li>- Not product of professional artists.</li> <li>- Same during the reign of King Khagemba.</li> <li>- Illustration done on hand-made papers, bark of trees, etc.</li> <li>- Subjects based on social and day to day events.</li> <li>- Mostly scenes of fishing with nets, hunting and funeral procession, etc.</li> </ul>                                                                                                                                                                                         | 5                   | 5           |
| 23.    | <p>The technique of painting in Ajanta cave was done by a layer of clay mixed with cow dung and powdered rice husk and also urine.</p> <ul style="list-style-type: none"> <li>- First applied to the chipped rock surface.</li> <li>- When dried, a second coat of lime plaster was applied.</li> <li>- Lines were drawn in pink, brown or black.</li> <li>- Brushes made from the squirrel tails.</li> <li>- colours made from pebbles and vegetables and mixed with glue.</li> <li>- Main colours used were red ochre, yellow ochre, brown ochre, lamp black, lapis lazuli imported from Northern India, Central Asia and Persia.</li> </ul> |                     |             |



**2018**  
**ADDITIONAL ENGLISH**

*Full Marks - 80*

*Pass Marks - 20*

*Time: Three hours*

*Attempt all questions.*

*The figures in the right hand margin indicate full marks for the questions.*

*Answer the questions in your own words as far as practicable.*

**Section - A**

**(Poetry)**

1. Explain the following extract with reference to the context : 6

(a) Thou thy worldly task hast done,  
Home art gone, and ta' en thy wages.  
Golden lads and girls all must,  
As chimney sweepers, come to dust.

Or

(b) Lives of great men all remind us  
we can make our lives sublime,  
And, departing, leave behind us  
Footprints on the sands of time

**Contd.**

2. Answer the following questions in one sentence each : 1×3=3

(a) What is the sweetest voice that the traveller heard in the course of his journey ?

(b) Where does the poet hear the cuckoo's song ?

(c) What does the stream say to the thwarting stone ?

3. Answer the following questions in about 30 words each. 2×3=6

(a) Which kind of cloth do the weavers weave in the moonlight chill?

(b) What did Longfellow affirm in the poem, A Psalm of Life ?

(c) Why does Wordsworth call the Cuckoo "Blessed bird"?

4. Answer the following question in about 100 words : 5

(a) How does the stream address stones, rocks and boulders in the poem "The Stream's song" ?

Or

(b) Describe the sweet sounds and sights that the traveller enjoyed on his return.

**SECTION – B**

**(PROSE)**

5. Explain the following extract with reference to the context : 6

- (a) For years scientists and doctors sought the secret o how it was spread.  
Some declared it to be caused by the night air, others that it came  
from the infected waters. Both theories to be disproved.

Or

- (b) "That's a lie. You're not dealing with a fool. I am as smart as and  
smarter".

6. Answer the following questions in one sentence each : 1×3=3

- (a) What according to Gandhiji is the first step to true education ?  
(b) ".... I have a sense of utter shame". In what way did Nehru have a  
sense of utter shame ?  
(c) When did the third generation computer appear on the market ?

7. Answer the following questions in about 30 words each : 2×3=6

- (a) What are the two factors for the sudden growth of computers ?  
(b) Which behaviours of the policeman on the beat made him look like  
a guardian of peace ?  
(c) What are the conditions under which Gandhiji feels that education  
will be of no use for every one ?

8. Answer the following questions in about 100 words :

5

(a) "You have been under arrest for ten minutes."

How was the arrest of Silky Bob made ?

Or

(b) How did Gerard outwit the intruder ?

### SECTION – C

#### (READING)

9. Read the following passage and answer the questions that follow :

Scientists are always worrying about something. Their knowledge is incomplete. They do not, they say, know where are going, but what worried them more than this is where we came from and how we arrived at our present exalted state of civilization and intelligence.

The Bible has no doubts and so no worries. Man was created by God, a divine inspirational creation relecting god's image. This is the most satisfying answer to the question. It is complete in itself and leaves no room for doubt but the scientists on the whole reject it. They say that man is an animal, highly intelligent, sophisticated animal, no doubt, but nevertheless an animal. They say that there must be a link between and the other animals – for all life, it seemed glittered out of the water on to the mud and from there on to finer ground.

But search as they will, the scientists are always up against a missing link. There seems to be an unbridgeable gap between the most civilized apes and the most uncivilized man.

(a) Answer the following questions in one word/phrase/sentence each :

i) Why are scientists always worrying ? 1

ii) Why has the Bible no worries ? 1

(b) Answer the following questions in about 30 words each :

i) Why do Scientists disagree that man is the creation of God ? 2

ii) Why do scientists believe about a link between man and animal? 2

(c) Pick out the word from the passage having the same meaning as :

i) dignified 1

ii) in spite of that 1

#### SECTION – D

#### (WRITING)

10. Complete the following dialogue with appropriate words / phrases according to the context : 1×5=5

James : Hello ! ..... ?

John : Fine, thank you, and ..... ?

James : Getting along fine. How is ..... ?

John : My family is OK. Is your daughter ..... ?

james : ....., she can attend school ?

11. Indane LPG service wants to introduce home delivery system of gas cylinders to its customers. Draft a circular for the customers. Put your name as Manager. 3

12. Give arguments for and against the given topic in about 90-100 words :5  
"Use of Mobile Phones by the students"

13. You are Philips, the social and cultural secretary of your school. Write a report on the Literary and Cultural Meet of your school. 5

14. Write a precis of the following and give a suitable title : 7

To avoid the various foolish opinions to which mankind is prone, no superhuman brain is required. A few simple rules will keep you free, not from all erros, but from silly errors. If the matter is one that can be settled by observation, make the observation yourself. Aristotle could have avoided the mistake of thinking that women have fewer teeth than men, by the simple device of asking Mrs. Aristotle to keep her mouth open while he counted. Thinking that you know, when in fact you do not, is a bad mistake, to which we all are prone. I believe myself that hedgehogs eat black beetles, because I have been told that they do; but I was writing a book on the



habits of hedgehogs, I should not commit myself until I had been one enjoying this diet. Aristotle, however, was less cautious. Ancient and medieval writers knew all about unicorns and salamanders; not one of them thought it necessary to avoid dogmatic statements about them because he had never seen one of them.

15. You are Donald. You want to organise an educational trip to a historical place. Write an application to the Principal of your school asking for his permission.

7

Or

Write a letter to the Manager Sharma Book Depot asking for supply of Text Books.

## SCORING KEY / OUTLINE ANSWER AND MARKING SCHEME

Subject and Paper :- Additional English

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                              | Mark for each point | Total Marks |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 1.     | <p>(a) Context : A Requiem by Shakespeare<br/>Man had been sent to perform some duties on earth – awards for good deeds and punishment or misdeeds – Death equals all – Rich and poor will face death.</p> <p>Or</p> <p>(b) Context A Psalm of Life by H.W. Longfellow<br/>Life stories of great men encouraged us to do good things – We also make ourselves an ideal for the future generation – Great men end their lives in death.</p>  | <p>2</p> <p>4</p>   | 6           |
| 2.     | <p>(a) Voice of love welcoming him.</p> <p>(b) in the valley full of sunshine.</p> <p>(c) to make way for her journey</p>                                                                                                                                                                                                                                                                                                                   | 1×3                 | 3           |
| 3.     | <p>(a) Cloth as white as feather- cloth to be used as man's funeral shroud</p> <p>(b) Life is not a dream- a continuous struggle- grave is not its goal</p> <p>(c) The bird can seen- wandering voice appeals the poet- feels it has a divine power.</p>                                                                                                                                                                                    | 2×3                 | 6           |
| 4.     | <p>(a) The Stream is personified as a living person- asks the stones and boulders to make her way- Warns that their power and strength will not be of no use against the power of current of the stream- will surrender to the stream.</p> <p>Or</p> <p>(b) Sweet song of the skylark– wind blowing around him at noontime- sounds of flowing water- sounds of sheep bells coming from a distance- sound of love on his return at home.</p> | 5                   | 5           |

| Q.<br>No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mark<br>for<br>each<br>point | Total<br>Marks |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------|
| 5.        | <p>(a) Context : The Conquest of Malaria</p> <p>Scientists and doctors had false notion about the cause of Malaria- believed that Malaria was caused from the night air coming from the marshes- some believed that it was caused by infected water. - These theories were found wrong.</p> <p style="text-align: center;">Or</p> <p>(b) Context : If I were you :</p> <p>An intruder forced into Gerrad's house - forced him to answer some questions - asked Gerrad if he possessed a car - negative reply - Intruder thought Gerrad telling a lie.</p> | 2+4                          | 6              |
| 6.        | <p>(a) to have faith in god.</p> <p>(b) As an individual as well as a head of the government</p> <p>(c) 1965</p>                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1×3                          | 3              |
| 7.        | <p>(a) Rapid technological improvement from 1900 - after World War-II large sum of money have been invested.</p> <p>(b) Watch full and obedient while patrolling in the street - artful movement of his club and stalwart figure.</p> <p>(c) If education cannot reach through pure heart - their education turns them away from god.</p>                                                                                                                                                                                                                 | 2×3                          | 6              |
| 8.        | <p>(a) Jimmy found his friend Bob a wanted man in Chicago - He did not want to arrest his friend by himself - He went away quietly and sent another policeman in plain cloth with a note to arrst Bob.</p> <p style="text-align: center;">Or</p> <p>(b) Gerrad posed himself as a wanted man like the intruder - He proposed the man to run with him - led him towards the garage pushed him in the garage and locked him- rang for the police.</p>                                                                                                       | 5                            | 5              |

| Q. No. | Value Point/Key/Outline Answer                                                                                                                                                                                                                                     | Mark for each point | Total Marks |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 9.     | (a) i) In the matter of origin of man, scientists' knowledge is incomplete.<br>ii) Bible believes that man is the creation of God.                                                                                                                                 | 1<br>1              | 1<br>1      |
|        | (b) i) Though highly intelligent man is from animal group- there must be a link between the two<br>ii) The scientists are always trying to bridge the missing link between man and animal- though most uncivilized man is wiser than the most civilized ape.       | 2<br>2<br>1         | 2<br>2<br>1 |
|        | (c) i) exalted ii) nevertheless                                                                                                                                                                                                                                    | 1                   | 1           |
| 10.    | .... How are you<br>..... you<br>..... is your family<br>..... I alright now<br>Oh, yes.....                                                                                                                                                                       | 1×5                 | 5           |
| 11.    | Circular Writing                                                                                                                                                                                                                                                   | 3                   | 3           |
| 12.    | Argument writing Equal mark distribution for merits and demerits of mobile phone.                                                                                                                                                                                  | 5                   | 5           |
| 13.    | Report Writing                                                                                                                                                                                                                                                     |                     |             |
| 14.    | Observing certain rules may keep us from committing error- that is self-observation- it is the best method- man is always prone to assume he knows everything and make mistakes to avoid this man should observe practically.<br>Title : Seeing is believing etc.. | 5+2                 | 7           |
| 15.    | Letter writing :<br>Format<br>Expression                                                                                                                                                                                                                           | 2<br>5              | 7           |

2018

HOME SCIENCE

Full Marks — 80

Pass Marks – 20

Time : Three hours

The figure in the right hand margin indicates full mark for the questions.

1. What causes rice flakes less palatable when stored for longer period? 1

সংরক্ষিত ধান চুইলে মধুরতা কমে যাওয়ার কারণ কী?

চেংশাক কুইনা লিবদা মহাও ব্রাংলক্লিবসি করিনা থোকহল্লিবনো?

2. Name are the two types of property. 1

সম্পত্তির দুই প্রকারের নাম লিখ।

প্রোপার্টি মখল অনিগী মমিং হায়যু।

3. Who are the earliest role models for a child? 1

কোন কোন ব্যক্তি শিশুর প্রথম নমোডেল?

অঙাং অমগী স্বাইদগী ইহান হানবা রোল মোদেল কনা কনানো?

4. Which Indian state is not covered by R.T.I. Act? 1

কোন কোন ভারতীয় রাজ্য R.T.I. আইন প্রযোজ্য নয়?

ভারতকী করম্মা ষ্টেট আর. টি. আই. এক্টনা কোনশিন্দবগে?

5. Why do children like to listen to music? 1

কেন শিশুরা সঙ্গীত শুনতে পছন্দ করে?

অঙাংশিংনা ঈশৈ তাবা করিগী পামলিবনো?

Contd

যোগেশি যোগেশম স্যো যোগেশি স্যো যোগেশম স্যো যোগেশি স্যো যোগেশম স্যো যোগেশি স্যো যোগেশম স্যো ॥  
 পীরিবা পাওখুম মঙা অসিগী মনুংদা অচুম্বা পাওখুম অদু খল্ল অমসুং পাওখুম অদু ইয়ু।

- ଶ୍ରୀମତଃ ନାମ \_\_\_\_\_ ଓଡ଼ିଆ ସାହିତ୍ୟର ଅନ୍ୟ ଏକ ପ୍ରମୁଖ କବି ।

(A) More (মেথ) (শাংনা)

- (B) Less (লেন্স) (শাংদনা)

- (C) Little (ছোটখাট) (খজিঙা)

- (D) Enough (সুগত স্টেট) (চপ চানা)

- අනුමැත පනත්පොත \_\_\_\_\_ රජයේ සේවයේ සහයෝගීතාවය සඳහා.

(A) Made (ଫର୍ମ) (ଓଇନ୍‌ବା)

- (B) Produced (উৎপাদিত) (থোকহনবা)

- (C) Given (স্বাধীনতা) (পীরকপা)

- (D) Imposed (অনুযোজিত) (নামশিল্পকপা)

- നാലു പത്ത് \_\_\_\_\_ ബീന്ദാ പത്ത് ॥

(A) Unlimited (সম্যাৱে টেমচ) (মপান নাইদবা)

- (B) Limited (অককুবা) (অককুবা)

- (C) Acquired (ঐচ্ছিক) (ফংলকপা)

- (D) Earned (কৈনটশ্য্যাত) (তাল্লকপা)

9. The method by which \_\_\_\_\_ control can be maintained is known as standardization. 1

যাৰেৰা \_\_\_\_\_ কণ্ট্ৰ'ল তৈৰাৰ যাৰেৰা অৱস্থা ৰক্ষাৰণৰ বাবে কৰা হয় ৷

পোংকী \_\_\_\_\_ কণ্ট্ৰ'ল তৈৰাৰ পাৰে অৱস্থা স্টাণ্ডাৰ্ডাইজেশ্যন হাৰা ৰখাৰ ৷

- (A) Condition (এফ'চন) (ফীভাম)  
(B) Quantity (কুৱাণ্টিটি) (চাং)  
(C) Shape (শেপ) (মণ্ডল)  
(D) Quality (কুৱালিটি) (মণ্ডল)

10. Rita nut is suitable for washing \_\_\_\_\_ fabrics. 1

ৰীতা নুট \_\_\_\_\_ ব্যৱহাৰৰ বাবে উপযুক্ত ৷

ৰীতা নুট \_\_\_\_\_ অসি গী ফিৰোল শুধাৰা চুৱাৰ ৷

- (A) Cotton (কটন) (লংজাম)  
(B) Synthetic (সিন্থেটিক) (খুৎশেম)  
(C) Silk (সিল্ক) (মুগা)  
(D) Wool (ৱুল) (শামতু)

11. Which type of emotion are usually shown by a child at the arrival of a new born baby? 2

যিবিধৰা মনোভাৱ অৱস্থা সাধাৰণতে দেখা দিয়া হয় এটা নতুন জন্মগ্ৰস্ত শিশুৰ আগত?

অভ্যাংগনা মনাও অমা পোকলকপদা কৰম কৰম্বা মখলগী পুৰিঙী ইহল উৎপত্তি?

12. Prepare albumen water for a sick Person. 2

অণ্ডাৰা অলবুমিন ৱাটাৰ তৈৰাৰ ৷

অনাবা অমগী অলবুমিন ৱাটাৰ তৈৰাৰ ৷

13. Suggest the different ways of saving time. 2

ক্ষম ম'মতচাৰী স'ম্ভৱ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ ॥

মতম চ'ন্দনবগী তোঙান তোঙানবা পাইশ্বশিং তাকউ।

14. What is investment? 2

ম'মতচাৰী স'ম্ভৱতঃ স'ম্ভৱতঃ ?

ইনভেস্টমেণ্ট কৰিনো?

15. What are the market aids available to protect the consumer against various risks in buying commodities? 2

স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ

পোতচৈ লৈবদা ক'জুমৰ অমনা থেংনৰিবা খুদোংচাদবা কয়াদু কোকহন্ননবা ফংলিবা কৈথেলগী তেংবাংশিং অদু কৰিনো?

16. Draw a neat diagram of suction washer. 2

স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ ॥

তৰু তনানবা স'জ্জন ৰাশৰ অমা য়েকউ।

17. Explain any three factors which influence children's interest in watching television show. 3

অ'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ ॥

অ'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ

18. How do tradition and misinformation affect meal planning? 3

স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ স'ম্ভৱতঃ

চ'ন্দনবী অমসুং লাননা খংবনা কৰমা চৰা প্লান তৌবদা অকাইবা থোকহনবগে?



19. Plan a low calorie diet for an obese person. 3

ଓବେଇଟ ପ୍ରମାଣେ ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

ଅନୋଇବା ନୁଆ ଅମଗୀ କେଲୋରି ହସ୍ତବା ଦାଉଟ ପ୍ଲାନ ତୌ ।

20. How does maintaining a record of expenditure help a housewife in spending money for different items? 3

ମୈତ୍ରୀ ଶ୍ରୀକାନ୍ତା ଶ୍ରୀକାନ୍ତା ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

ଚାଦିଂ ତୌବିବଗୀ ରେକୋର୍ଡ ଥାନ୍ତୁନା ଯୁକ୍ତରେସ୍ତ୍ରୀ ଅମନା ତୋଞ୍ଜାନ ତୋଞ୍ଜାନବା ରିହମଶିଂଦା ଶେଲ ଶିଜିଲବଦା କରମ୍ମା ମତେଂ ପାଂବଗେ ?

21. Cite six responsibilities of a consumer? 3

ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

କଞ୍ଜୁମର ଅମଗୀ ଦାଉତ୍ୟ ତରୁକ୍ତ ଇୟୁ ।

22. Draw a neat diagram of ironing board. 3

ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

ତରୁ ତନାନବା ଆଇରିଂ ବୋର୍ଡ ଅମା ଯେକଡ ।

23. Classify stain according to their origin. 3

ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

ହୌରକଫମଗୀ ମତୁଂ ଇନ୍ନା ଚୁବା ମଧଲ ଖାଉଦୋକଡ ।

24. What types of play are included in passive play? 4

ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

କରମ କରନ୍ତା ମଧଲଗୀ ମଶାନଶିଂ ପେସିବ ପ୍ଲେଗୀ ମନୁଂ ଚାଲି ?

25. Explain any four types of convenience food? 4

ଉଚ୍ଚକାଲୋରି ଖାଦ୍ୟର ଲୋକାଲ ଖାଦ୍ୟ ଯୋଜନା କର ।

ଖୁଂଲୋଇବା ଡିଞ୍ଜାକ ମଧଲ ମରି ଶନ୍ଦୋକ୍ରା ତାକଡ ।

26. List down the different steps of management process. 4

ନିମ୍ନଲିଖିତ ମାନବ ସମ୍ବଳର ବିଭିନ୍ନ ପଦକ୍ଷେପ ଲିଖନ କର ।

ମାନବ ସମ୍ବଳର ପ୍ରଶାସନିକ ପଦକ୍ଷେପ ଲିଖନ କର ।

27. Analyse the factors to be kept in mind while selecting ready made garment. 4

ପ୍ରସ୍ତୁତ ଗାର୍ମେଣ୍ଟର ଲକ୍ଷଣ ଓ ଗୁଣ ଲିଖନ କର ।

ପ୍ରସ୍ତୁତ ଗାର୍ମେଣ୍ଟର ଲକ୍ଷଣ ଓ ଗୁଣ ଲିଖନ କର ।

28. Explain the different forms of child's behaviour in the socialization process. 7

ସାମାଜିକୀକରଣ ପ୍ରକ୍ରିୟାରେ ଶିଶୁର ବିଭିନ୍ନ ଆଚରଣ ଲିଖନ କର ।

ସାମାଜିକୀକରଣ ପ୍ରକ୍ରିୟାରେ ଶିଶୁର ବିଭିନ୍ନ ଆଚରଣ ଲିଖନ କର ।

6

Contd.

29. What is a balanced diet? List down the classification of foods under Food Guide. 7

ସନ୍ତୁଳିତ ଖାଦ୍ୟ କ'ଣ ? ଖାଦ୍ୟର ବିଭିନ୍ନ ଶ୍ରେଣୀ ଲିଖନ କର ।

ସନ୍ତୁଳିତ ଖାଦ୍ୟ କ'ଣ ? ଖାଦ୍ୟର ବିଭିନ୍ନ ଶ୍ରେଣୀ ଲିଖନ କର ।

30. Point out the steps to be followed while washing a white cotton shirt. 7

ଫୁଲ ଖୁସି ଲେଖନ କର ।

ଫୁଲ ଖୁସି ଲେଖନ କର ।

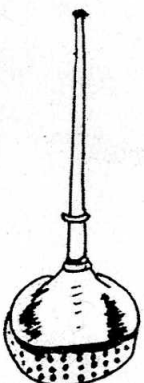
# SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME

SUBJECT & PAPER .....

| Sl. No. |                                                                                                                                                                                                           | Mark for each point | Total Marks |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 1.      | Slow loss of flavour compounds                                                                                                                                                                            | 1                   | 1           |
| 2.      | Movable and immovable property                                                                                                                                                                            | $\frac{1}{2}$       | 1           |
| 3.      | Parents                                                                                                                                                                                                   | 1                   | 1           |
| 4.      | Jammu and Kashmir                                                                                                                                                                                         | 1                   | 1           |
| 5.      | Enjoy being sung to them/listening to music                                                                                                                                                               | 1                   | 1           |
| 6.      | A. More                                                                                                                                                                                                   | 1                   | 1           |
| 7.      | B. Imposed                                                                                                                                                                                                | 1                   | 1           |
| 8.      | C. Limited                                                                                                                                                                                                | 1                   | 1           |
| 9.      | D. Quality                                                                                                                                                                                                | 1                   | 1           |
| 10.     | C. Silk                                                                                                                                                                                                   | 1                   | 1           |
| 11.     | Anger and jealousy                                                                                                                                                                                        | 1                   | 1           |
| 12.     | White of 1 egg, 180ml water, $\frac{1}{2}$ teaspoonful sugar, a pinch of salt.<br>Separately white from yolk, whisking it without making brothy. Adding boiled and cold water. Straining after seasoning. | 1 each              | 2           |
| 13.     | (i) Making time plan, following trictly.<br>(ii) Not wasting time.<br>(iii) Using labour saving devices.<br>(iv) Doing two or three activities at the same time.                                          | $\frac{1}{2}$       | 2           |
| 14.     | Placing family funds in more or less permanent form with expectation of assuring security of principal and of receiving regular predictable return from it.                                               | 2                   | 2           |


# SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME

SUBJECT & PAPER .....

| Sl. No. |                                                                                                                                                                                                                                      | Mark for each point | Total Marks |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 15.     | (i) Standardization Marks, (ii) Labels, (iii) Packages, (iv) Advertisement (v) Leaflet (vi) Pamphlet (any four points)                                                                                                               | $\frac{1}{2}$       | 2           |
| 16.     |  <p>Diagram of Suction Washer</p>                                                                                                                   | 2                   | 2           |
| 17.     | <p>Factors – (i) Age, (ii) Sex, (iii) Intelligence (iv) Socio economic status, (v) Academic achievement.</p> <p>Explanation on any three points.</p>                                                                                 | 1                   | 3           |
| 18.     | <p>Tradition – Based on experience, sometimes some poor practices become part of tradition leading to poor meal planning.</p> <p>Misinformation – Wrong information about food leads to poor selection of food in meal planning.</p> | $1\frac{1}{2}$      | 3           |
| 19.     | <p>Per day meals should provide 1200 to 1600 calories.</p> <p>Protein – 1.5 gm per kilogram body weight</p> <p>Carbohydrate – Restricted</p> <p>Fat – Restricted</p> <p>Mineral &amp; Vitamins – No restriction</p>                  | 3                   | 3           |

# SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME

SUBJECT & PAPER .....

| Sl. No. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mark for each point | Total Marks |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 20.     | <p>Able to</p> <p>(i) Know exactly how much has been spent on each item.</p> <p>(ii) Identify if spent more or less on certain item than in previous months.</p> <p>(iii) Identify unnecessary expenditure and stop spending money on those items.</p> <p>(iv) Predict money needs for the future.</p> <p>(v) Save money.</p> <p>(vi) Compare prices of products and avoid being cheated.</p>                                                                                                      | $\frac{1}{2}$       | 3           |
| 21.     | <p>Responsibilities</p> <p>(i) Purchasing when needed, not in a hurry.</p> <p>(ii) No blind purchaser, demanding full information.</p> <p>(iii) Aware of misleading advertisement.</p> <p>(iv) Purchasing quality product.</p> <p>(v) Buying electrical appliances with ISI mark and food products with Ag mark FPO mark.</p> <p>(vi) Obtaining receipt/cash memo. Obtaining guarantee/warranty card.</p> <p>(vii) Approaching consumer court/appropriate authorities.</p> <p>(any six points)</p> | $\frac{1}{2}$       | 3           |
| 22.     |  <p>Diagram of ironing board.</p>                                                                                                                                                                                                                                                                                                                                                                               | 2                   | 2           |

# SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME

SUBJECT & PAPER .....

| Sl. No. |                                                                                                                                                                                                                                                                                                                                                           | Mark for each point | Total Marks |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 23.     | Classification – (a) Animal, (b) vegetable, (c) Grease, (d) Dye and (e) Mineral Explanation on the above points.                                                                                                                                                                                                                                          | 3                   | 3           |
| 24.     | Types – (i) Watching others (ii) Looking at comics (iii) Watching television Elaboration on there points.                                                                                                                                                                                                                                                 | 1                   | 3           |
| 25.     | Types of Convenience foods<br>(a) Bottled and canned fruits and vegetables.<br>(b) Tinned fish, meat, paneer, sag, pulao etc.<br>(c) Dehydrated foods and juice concentrates<br>(d) Frozen foods<br>(e) Ready to use frozen foods<br>(f) Mixture, biscuit, waffers etc.<br>(g) Cakes, patties, pastries, bread, bunds.<br>(Explanation on any four types) | 1                   | 4           |
| 26.     | Management process (a) planning (b) organising (c) implementing (d) evaluation Elaboration on these points.                                                                                                                                                                                                                                               | 1                   | 4           |
| 27.     | Factors (i) Cut of the garment (on grain), (ii) srifes, (iii) Seams (iv) Fasteners (Elaboration on these points)                                                                                                                                                                                                                                          | 1                   | 4           |
| 28.     | Childhood behaviour in socialization process<br>(i) Imitation (ii) Quarelling (iii) Non co-operativeness, (iv) selfishness<br>(v) Negativism (vi) sharing (vii) Rivalry.<br>Explanation on these seven points.                                                                                                                                            | 1                   | 7           |
| 29.     | Diet containing different types of food in right quantity and properties to meet body requirment and small provision is made for extra nutrients to withstand short duration of leanness.<br>Classification of food under foo guide:                                                                                                                      | 2                   | 2           |

# SCORING KEY/OUTLINE ANSWER AND MARKING SCHEME

SUBJECT & PAPER .....

| Sl. No. |                                                                                                                                                                                                                                           | Mark for each point | Total Marks |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|
| 29.     | (i) cereal grains and products<br>(ii) pulses and legumes<br>(iii) milks and milk products<br>(iv) fruits and vegetables<br>(v) fats and sugar                                                                                            | 1                   | 5           |
|         | Elaboration of these                                                                                                                                                                                                                      |                     |             |
| 30.     | Steps while washing cotton shirt<br>(i) Examination of article<br>(ii) Steeping<br>(iii) Washing<br>(iv) Ringing<br>(v) Wringing<br>(vi) Stiffening and bluing and drying<br>(vii) Dampening and ironing<br>(Elaboration on these points) | 1                   | 7           |