

THE FIRST COMPARATIVE EXAMINATION 2019-20

Class X (ICSE)
ENGLISH LANGUAGE
ENGLISH Paper - 1
(Two hours)

Maximum marks: 80

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

Attempt all five questions.

The intended marks for questions or parts of questions are given in brackets [].

You are advised to spend not more than 30 minutes in answering Question 1
and 20 minutes in answering Question 2.

Question 1

(Do not spend more than 30 minutes on this question.)

[20]

Write a composition (300 – 350 words) on any one of the following:

- (a) 'We ourselves are responsible for our ill health in modern times'. Express your views either for or against this statement.
- (b) Narrate an event of social importance in your city or locality. Write about the background, the event and its impact on the lives of the people.
- (c) You are working hard towards taking up a serious profession. Which profession would you choose and why?
- (d) Write an original story ending with the words, '... I swear to God never again to do what I did today'.
- (e) You are a spectator at a cricket match. Trouble erupts suddenly in the stadium and you witness a riot among the crowd. Give a vivid description of the scene.
- (f) Study the picture given on the next page. Write a story or a description or an account of what the picture suggests to you. Your composition may be about the subject of the picture or you may take suggestions from it; however there must be clear connection between the picture and your composition.



Question 2

(Do not spend more than 20 minutes on this question.)

[10]

Select any one of the following:

- A park in your locality is slowly being used as a rubbish dump. Write a letter to the Editor of a newspaper pointing out the nuisance caused to the inhabitants of the locality and suggest remedies for solving the problem.
- You have been excluded from your school swimming team. Write a letter to your mother expressing your disappointment and state the reason for the same.

Question 3

[5+5]

- Your school is organizing an Inter-School Music Competition. Write a notice informing the students of classes IX – X about the event.
- Write an email to the Principal of a neighbouring school requesting him / her to send a team of four students to participate in the event.

Question 4

Read the following passage carefully and answer the questions (a), (b) and (c) that follow:

Aunt died at 6 p.m. on Wednesday the 5th of April and came to life again exactly twenty minutes later. This is how it happened.

Aunt was, as a rule, a fairly tolerant, easygoing person, who waddled about the house without paying much attention to the swarms of small sons, daughters, nephews and nieces who poured in and out of the rooms. But, she had taken a particular aversion to her ten-year-old nephew, Sunil. She was a simple woman and could not understand Sunil. He was a little brighter than her own sons, more sensitive, and inclined to resent a scolding or a cuff across the head. He was better looking than her own children. All this, in addition to the fact that she resented having to cook for the boy while both his parents went out to office jobs, led her to grumble at him a little more than was really necessary.

5

10

Sunil sensed his aunt's jealousy and fanned its flames. He was a mischievous boy and did little things to annoy her, like bursting paper bags behind her while she dozed or commenting on the width of her pyjamas when they were hung out to dry. On the evening of the 5th of April, he had been in particularly high spirits and feeling hungry entered the kitchen with the intention of helping himself to some honey. But the honey was on the top shelf, and Sunil wasn't quite tall enough to grasp the bottle. He got his fingers to it but as he tilted it towards him, it fell to the ground with a crash.

Aunt reached the scene of the accident before Sunil could slip away. Removing her slipper, she dealt him three or more furious blows across the head and shoulders. This done, she sat down on the floor and burst into tears.

20

Had the beating come from someone else, Sunil might have cried; but his pride was hurt and instead of weeping, he muttered something under his breath and stormed out of the room.

Climbing the steps to the roof, he went to his secret hiding place, a small hole in the wall, where he kept his marbles, kite-string, tops and a clasp-knife.

25

"I'll kill her!" he whispered fiercely, "I'll kill her! I'll kill her I ..."

"Whom are you going to kill, Sunil?"

It was his cousin Madhu, a dark, slim girl of twelve, who aided and abetted him in most of his exploits. Sunil's aunt was her Maami. It was a very big family.

"Aunt" said Sunil. "She hates me, I know. Well, I hate her too. This time I'll kill her." "How are you going to do it?"

"I'll stab with this." He showed her the knife. "Three times in the heart."

"But you'll be caught. The C.I.D. is very clever. Do you want to go to jail?"

"Won't they hang me?"

"They don't hang small boys. They send them to boarding schools."

35

"I don't want to go to boarding school."

"Then better not kill your aunt. At least not this way. I'll show you how."

Madhu produced pencil and paper, went down on her hands and knees and made a rough drawing of aunt. Then, with a red crayon, she sketched in a big heart in the region of aunt's stomach. "Now, she said, stab her to death."

40

Sunil's eyes shone with excitement. Here was a great new game. You could always depend on Madhu for something original. He held the drawing against the woodwork, and plunged the knife thrice into aunt's pastel breast.

"You have killed her," said Madhu. "Is that all?"

"Well if you like we can cremate her." "All right."

45

She took the torn paper, crumpled it up, produced a box of matches from Sunil's hiding place, lit a match, and set fire to the paper. In a few minutes all that remained of aunt was a few ashes. "Poor aunt, said Madhu."

"Perhaps we shouldn't have done it," said Sunil beginning to feel sorry.

"I know, we'll put her ashes in the river." "What river?" "Oh the drain will do."

50

Madhu gathered the ashes together, and leant over the balcony of the roof. She threw out her arms and the ashes drifted downwards. Some of them settled on the pomegranate tree, a few reached the drain and were carried away by a sudden rush of kitchen water. She turned to find big tears rolling down Sunil's cheeks.

"What are you crying for?" asked Madhu.

"Aunt, I didn't hate her so much."

As they came down the steps from the roof, aunt emerged from the kitchen.

"Oh aunt" shouted Sunil. He rushed to her and tried to get his arms around her ample waist. "I love you so much please don't leave us."

- (a) Give the meaning of each of the following words as used in the passage. One word answers or short phrases will be accepted. [3]

- (i) aversion (line 5)
(ii) inclined (line 7)
(iii) plunged (line 43)

- (b) (i) Why had aunt taken an aversion to Sunil? [2]

- (ii) How would Sunil annoy her? [2]

- (iii) How did the honey bottle break? [2]

- (iv) How did Sunil react when his pride was hurt? [1]

- (v) Describe Sunil's secret place. [2]

- (c) In not more than 50 words relate how aunt died and came back to life twenty minutes later. [3]

Question 5

- (a) Fill in each of the numbered blanks with the correct form of the word given in brackets. [4]

Do not copy the passage but write in correct serial order the word or phrase appropriate to the blank space.

Example:

Answer: (0) takes.

Man (0) _____ (take) water for granted, for water (1) _____ (be), by and large, a free commodity. The rate at which man (2) _____ (consume) this raw material will sooner or later (3) _____ (exhaust) the entire stock of water in certain parts of the world. It, therefore, (4) _____ (come) as no surprise that the world bank (5) _____ (propose) a water tariff. It would (6) _____ (design) to make the wasters pay for waste and the polluters for pollution. It (7) _____ (has) a tremendous ripple effect upon our entire economic system but will go a long way in the (8) _____ (conserve) of water.

(b) Fill in each blank with an appropriate word:

[4]

- (i) He was let off _____ a fine.
- (ii) The villagers lodged a complaint _____ the corrupt officials.
- (iii) Always be true _____ yourself.
- (iv) Where did you come _____ this word?
- (v) Nothing can stop him _____ pursuing his aim.
- (vi) The driver was forced to hand _____ the keys.
- (vii) The scientist carried _____ a number of experiments.
- (viii) _____ Maria, all of you are invited.

(c) Join the following sentences to make one complete sentence without using and, but or so:

[4]

- (i) He cannot afford a car. He is very poor.
- (ii) He is not an idler. He is not a gambler.
- (iii) Tanya was inexperienced. Tanya did a good job.
- (iv) The police arrived. The crowd disappeared.

(d) Re-write the following sentences according to the instructions given after each. Make other changes that may be necessary, but do not change the meaning of the sentence. [3]

- (i) As soon as Serena Williams won the Wimbeldon title, tears rolled down her cheeks.

(Begin: No sooner

- (ii) Although she is very dull in studies, her father loves her.

(Begin: However

- (iii) Besides making a promise, she kept it.

(Begin: Not only

- (iv) He said to us, "Are you going to school?"

(Begin: He

- (v) You are a doctor.

(Add a question tag)

- (vi) The young people like his songs.

(Begin: His songs

- (vii) It is probable that he will come back.

(Begin: In all

- (viii) Water is the cheapest fire extinguishing agent.

(Use: cheap)

THE FIRST COMPARATIVE EXAMINATION 2019-20
Class X (ICSE)
LITERATURE IN ENGLISH
ENGLISH Paper 2
(Two hours)

Maximum marks: 30

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this paper is the time allowed for writing the answers.

Attempt five questions in all.

You must attempt one question from each of the Sections A, B and C

and any two other questions.

The intended marks for questions or parts of questions are given in brackets [].

SECTION A - DRAMA

The Merchant of Venice: Shakespeare

Question 1

Read the extract given below and answer the questions that follow:

Antonio

Content, in faith I'll seal to such a bond,
And say there is much kindness in the Jew.

Bassanio

You shall not seal to such a bond for me:
I'll rather dwell in my necessity.

Antonio

Why, fear not, man; I will not forfeit it.

(i) Where are Antonio and Bassanio at present? Who else is present along with them? What was the purpose of their being together? [3]

(ii) What are the terms of the bond? [3]

(iii) What danger, concerning Antonio, does Bassanio see? What does Bassanio mean by saying 'I'll rather dwell in my necessity'? [3]

(iv) What does 'not forfeit it' mean? What assurance does Antonio give to Bassanio immediately after this? [3]

(v) What justification does Shylock give for not gaining anything from the forfeiture? What impression do you form of Shylock's character from this scene? [4]

Question 2

Read the extract given below and answer the questions that follow:

Bassanio

O sweet Portia,

Here are a few of the unpleasant'st words

That ever blotted paper!

Q
R

- (i) Where does this scene take place? Who else was there with Portia and Bassanio? Why was Bassanio present there? [3]
- (ii) What does Bassanio confess to Portia? [3]
- (iii) What news did Bassanio receive about his friend, Antonio? How does Portia conclude that there is some bad news in the letter? What could be the bad news according to Portia? [3]
- (iv) Why were the Duke and magnificoes helpless? What was Shylock demanding from them? What information does Jessica give about Shylock and his demand? [3]
- (v) What does Portia instruct Bassanio to do to help his friend? What else does she ask him to do before leaving? [4]

Question 3

Read the extract given below and answer the questions that follow:

Launcelot

(Shouts) Why, Jessica!

Shylock

Who bids thee call? I do not bid thee call

- (i) Where does the scene take place? Who all are present there? Who makes an entry soon after? [3]
- (ii) According to Shylock, what difference will Launcelot find when he joins Bassanio's service? [3]
- (iii) What does Shylock tell Jessica about the place he is going to? Why is he unwilling to go there? [3]
- (iv) What instructions does he give Jessica regarding the masque being held that night? [3]
- (v) What does Shylock say about Launcelot? Why is he ready to part with him? What benefit does he find in it? [4]

SECTION B - POETRY
A Collection of Poems

Question 4

Read the extract given below and answer the questions that follow:

The athletes had come from so many countries
To run for the gold, for the silver and bronze
Many weeks and months in training
All building up to the games

(*Nine Gold Medals*, David Roth)

- (i) Which event did the athletes come for? Why was it unique? What were the athletes running for? [3]
- (ii) For whom was the call made? Describe the scene in the field. [3]
- (iii) Who proved to be unlucky in the event and why? Describe his reaction. [3]
- (iv) What did the other athletes do? How did they continue the race? [3]
- (v) What was written on the banner? How did the incident justify those words? [4]

Question 5

Read the extract given below and answer the questions that follow:

Their logs held tight in death's still hands
Was proof of human sin.
They did not die from the cold without
They died from the cold within.

(*The Cold Within*, James Patrick Kinney)

- (i) Whom does 'their' refer to? What human sin is referred to here? [3]
- (ii) What was their immediate need at that moment and why? [3]
- (iii) Describe the behaviour and attitude of the third and fourth person. [3]
- (iv) What did the black man see in his piece of wood? What does the poet say about the last man? [3]
- (v) Earlier why had this group been referred to as 'forlorn'? What are the six people in the poem representative of? What message does the poet convey to the readers? [4]

Question 6

Read the extract given below and answer the questions that follow:

Bangle sellers are we who bear
Our shining loads to the temple fair ...
Who will buy these delicate, bright
Rainbow-tinted circles of light?

(*The Bangle Sellers*, Sarojini Naidu)

- (i) Where are the bangle sellers taking the bangles? Why do they select this place for selling their bangles? Who are the prospective buyers of these bangles? [3]
- (ii) What colour of bangles are suitable for a maiden's wrist? What do these colours symbolize? [3]
- (iii) What do you understand by bridal laughter and bridal tear? What have they been compared to in the poem? [3]
- (iv) Describe the stages of a woman's life as expressed in the poem. [3]
- (v) How does the poem glorify the idea of Indian womanhood? [4]

SECTION C – PROSE

A Collection of Short Stories

Question 7

Read the extract given below and answer the questions that follow:

"Well, Mr Easton, if you will make me speak first, I suppose I must.

(*Hearts and Hands*, O. Henry)

- (i) Who is the speaker? How has this person been described? [3]
- (ii) Who were the linked couple? Which train were they travelling by? Where did they board the train? [3]
- (iii) What did Mr Easton and his companion look like? [3]
- (iv) What favour does Mr Easton's companion ask from the speaker? [3]
- (v) How do the handcuffs reveal the true identity of Mr Easton? Draw out one character trait of the marshal from the story. Justify with a suitable example. [4]

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Question 8

Read the extract given below and answer the questions that follow:

Now, nothing could pierce the inch-thick armoured hide. Not even rifle bullets, which would bounce off.

(*The Blue Bead*, Norah Burke)

- (i) Who is being spoken about in the above lines? What dangers did he face in his young age? [3]
- (ii) What did he feed on? [3]
- (iii) Who were the Gujars? Describe the Gujar women. Where had the Gujar males gone? [3]
- (iv) How did Sibia take care of the Gujar woman after rescuing her? [3]
- (v) What did Sibia see when she went back to get her sickle and fork? Why did her heart go up in flames of joy? [4]

Question 9

Read the extract given below and answer the questions that follow:

With reference to the story 'A Face in the Dark' by Ruskin Bond, answer the following questions:

(*A Face in the Dark*, Ruskin Bond)

- (i) Describe the school where Mr Oliver worked. What name had it been given and why? [4]
- (ii) In what condition did Mr Oliver find the boy? Why was he surprised to see him there? [4]
- (iii) The story has a prominent supernatural element. Discuss it in the light of the events that occur in the story. [8]

THE FIRST COMPARATIVE EXAMINATION 2019-20
Class X (ICSE)
MATHEMATICS

Time: Two hours and a half

Instructions:

Maximum marks: 80

- * Answers to this paper must be written on the answer script provided separately.
- * You will NOT be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- * The time given at the head of this paper is the time allowed for writing the answers.
- * Answer all questions in Section A. Attempt any four questions from Section B.
- * All working, including rough work must clearly be shown and must be done on the same sheet as the rest of the answer. Omission of essential working will result in loss of marks.
- * The intended marks for questions or parts of questions are given in brackets [].
- * Mathematical tables and graph papers shall be provided to you.

SECTION A [40 marks]

Attempt all questions from this section.

Question 1

- (a) If $x = \frac{3}{2}$ is a solution of the quadratic equation $4x^2 + mx - 3 = 0$, find the value of 'm'. [3]

- (b) If $\begin{bmatrix} 4 & -2 \\ 4 & 0 \end{bmatrix} + 3A = \begin{bmatrix} -2 & -2 \\ 1 & -3 \end{bmatrix}$, find the matrix A. [3]

- (c) Solve the following inequation and represent the solution set on the number line:

$$2+4x < 2x-5 \leq 3x, \text{ where } x \in \mathbb{I} \quad [4]$$

Question 2

- (a) If $(x-2)$ is a factor of the expression $2x^3 + ax^2 + bx - 14$ and when the expression is divided by $(x-3)$, it leaves a remainder 52, find the values of 'a' and 'b'. [3]

- (b) A man buys 50, ₹ 100 shares paying 12 percent dividend. He buys shares at such a price that he gets 15 percent of his money. At what price did he buy the shares? [3]

- (c) The area of a rectangular hall is 300 m^2 . If the length of the hall is decreased by 5 m and its breadth is increased by 5 m, the area would be unaltered. Find the length of the hall. [4]

Question 3

- (a) Amit deposited ₹ 150 per month in a bank for 8 months under the Recurring Deposit Scheme. What will be the maturity value of his deposits, if the rate of interest is 8% per annum and the interest is calculated at the end of every month? [3]
- (b) The tax invoice of a telecom service in Meerut shows cost of services provided by it as ₹ 750. If the rate of GST is 18%, find the amount of the bill. [3]
- (c) Find the mode and the median of the following frequency distribution: [4]

x	5	6	7	8	9	10
f	3	9	6	4	2	1

Question 4

- (a) Solve the following inequation and graph the solution set on the number line:
 $2y - 3 < y + 1 \leq 4y + 7, y \in \mathbb{R}$ [3]
- (b) Find the mode of the following data, using a histogram. [3]

Class	0-10	10-20	20-30	30-40	40-50
Frequency	5	12	20	9	4

Use a graph paper for this question.

- (c) Find x and y , if:

$$[3x \quad 8] \begin{bmatrix} 1 & 4 \\ 3 & 7 \end{bmatrix} - 3[2 \quad -7] = 5[3 \quad 2y]$$

[4]

SECTION B [40 marks]

Attempt any four questions from this section.

Question 5

- (a) Solve the following inequation and graph the solution on the number line: [3]

$$-2\frac{5}{6} < \frac{1}{2} - \frac{2x}{3} \leq 2, x \in \mathbb{W}$$

- (b) Find x and y , if:

$$\begin{bmatrix} 4 & 3x \\ x & -2 \end{bmatrix} \begin{bmatrix} 5 \\ 1 \end{bmatrix} = \begin{bmatrix} y \\ 8 \end{bmatrix}$$

[3]

- (c) Ram opened a recurring deposit account with a Nationalised Bank. He deposited ₹ 1,000 per month for a period of 2 years. At the time of maturity, he received ₹ 25,500. Find:

- (i) the interest earned in 2 years
(ii) the rate of interest per annum.

[4]

Question 6

- (a) Solve the equation $3x - \frac{8}{x} = 2$. [3]
- (b) What number should be subtracted from $x^3 + 3x^2 - 8x + 14$ so that when the resulting polynomial is divided by $(x - 2)$, the remainder is 10? [3]
- (c) Given $\begin{bmatrix} 2 & 3 \\ 1 & -2 \end{bmatrix} X = \begin{bmatrix} 11 \\ -12 \end{bmatrix}$.
- Write the order of the matrix X.
 - Find the matrix X. [4]

Question 7

- (a) Without solving the following quadratic equation, find the values of 'm' for which the given equation has real and equal roots: [3]
- $$x^2 + (m-1)x + (m+2) = 0$$
- (b) Sudhir invests a sum of money in ₹ 50 shares, paying 15% dividend quoted at 20% premium. If his annual income is ₹ 600, calculate:
- the number of shares he bought
 - his total investment
 - the rate of return on his investment. [3]
- (c) Using step-deviation method, calculate the mean of the following distribution: [4]

Class interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	5	3	4	7	2	6	13

Question 8

- (a) Goods/services are sold from Kota (Rajasthan) to Mumbai (Maharashtra) for ₹ 20,000 and then from Mumbai to Pune (Maharashtra). If the rate of GST is 12% and the profit made at Mumbai is ₹ 5,000; find the net GST paid at Pune, if the dealer at Pune is the end-user. [3]
- (b) Solve for 'x' and give your answer correct to two decimal places: [3]
- $$3x^2 - x - 7 = 0$$
- (c) Using the Factor Theorem, factorise the following expression completely: [4]
- $$2x^3 + x^2 - 13x + 6$$

Question 9

- (a) Mr Khanna has a Recurring Deposit Account of ₹ 300 per month. If the rate of interest is 12% per annum and the maturity value of this account is ₹ 8,100; find the time (in years) of this Recurring Deposit Account. [5]

- (b) The product of the digits of a two digit number is 12. When 36 is added to this number, the digits interchange their places. Find the number.

[5]

Question 10

- (a) The mean of the following distribution is 62.8 and the sum of all the frequencies is 50. Find the missing frequencies f_1 and f_2 .

[5]

Class	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120
Frequency	5	f_1	10	f_2	7	8

- (b) The marked price of an article is ₹ 6,000. A wholesaler sells it to a dealer at 20% discount. The dealer further sells the article to a customer at a discount of 10% on the marked price. If the rate of GST at each stage is 18%, find the amount of tax (under GST) paid by the dealer to the government.

[5]

Question 11

- (a) Rohit invested ₹ 9,600 on ₹ 100 shares at ₹ 20 premium paying 8% dividend. Rohit sold the shares when the price rose to ₹ 160. He invested the proceeds (excluding dividend) in 10% ₹ 50 shares at ₹ 40. Find:
- (i) the original number of shares
 - (ii) the sale proceeds
 - (iii) the new number of shares
 - (iv) the change in the two dividends.

[4]

- (b) The following distribution represents the height of 160 students of a school:

Height (cm)	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180
No. of students	12	20	30	38	24	16	12	8

Using a graph paper, draw an ogive for the given distribution, taking 2 cm = 5 cm of height on one axis and 2 cm = 20 students on the other axis. Using the graph, determine:

- (i) the median height
- (ii) the inter-quartile range
- (iii) the number of students whose height is above 172 cm.

[6]

THE FIRST COMPARATIVE EXAMINATION 2019-20
Class X (ICSE)
GEOGRAPHY - H.C.G. 2

Time: Two hours
Instructions

Maximum marks: 80

- Answers to this paper must be written on the answer script provided separately.
- All answers of each question must be answered in the correct serial order.
- You MUST NOT be allowed to write during the first fifteen minutes. This time is to be spent in reading the question paper.
- Please do not write anything on your question paper except your name and roll number.
- The intended marks for questions or parts of questions are given in brackets [].
- Do not copy the questions on your answer script but copy the correct question number.
- The map given at the end of this question paper must be detached and after marking, must be fastened to your answer booklet after the cover page.

Note

It is requested that you make use of arrows to avoid overcrowding of the map.
Attempt all questions in Part I is compulsory. All questions from Part I are to be attempted and four questions are to be attempted from Part II.
To be supplied with this paper: Survey of India Map sheet No. 45 D/10, T11 502; and
an outline map.

PART I [40 marks]

Attempt all questions from this section.

SECTION I [25 marks]

Question 1

Study the area of the Survey of India Map Sheet No. 45 D/10, T11 502 and answer the following questions:

- Give the six figure grid reference for each of the following:
 - Map of India [1]
 - Map of Penna [1]
 1413. [1]
- Name the three passes in:
 - 1517 [1]
 1916. [1]
- Calculate the distance in Kilometres along the east track between Revdar and Rampur stations. [2]
- What is the morning of:
 - 25th 1117 [1]
 - 3rd 0617. [1]
- On which bank of Sitna Nadi is Marol situated? What is the social significance of this village? [2]

- (f) What is the meaning of:
(i) Causeway
(ii) Open Scrub?
- (g) What do you understand by Representative Fraction? State the Representative Fraction of the given map sheet.
- (h) Calculate in Kilometres the area of land enclosed within eastings 03 to 07 and northings 08 to 13. Show the working.
- (i) Which is the most important settlement? Give a reason for your answer.
- (j) Give two reasons to show that the area experiences seasonal rainfall.
- (k) What is the general pattern of settlement in the region shown on the map? Give a reason for such settlement pattern.
- (l) Draw the conventional symbols for the following:
(i) Unlined perennial well
(ii) Temporary hut
(iii) Metalled road.

SECTION II [15 marks]

Question 2

On the outline map of India, mark and label the following:

- (a) The Western Ghats
- (b) The River Tapi
- (c) The Palk Strait
- (d) The River Kosi
- (e) The Latitude which divides the subcontinent into two zones
- (f) Lake Chilka
- (g) The Thar Desert
- (h) The Malabar Coast
- (i) The Vindhyan Mountains
- (j) The Garo Hills
- (k) Hyderabad
- (l) Kolkata
- (m) The Nathu-La Pass
- (n) An area of Red Soil
- (o) The Deccan Plateau.

PART II [40 marks]

Attempt any four questions from this part.

Question 3

- (a) Give two differences between alluvial soils found in the upper course and lower course of the river. [2]
- (b) Define the following: [1]
(i) Soil fertility [1]
(ii) Soil texture [1]
- (c) (i) Define Leaching. [2]
(ii) Mention two climatic conditions which promote it. [1]
- (d) (i) Identify the soil having self ploughing quality. [1]
(ii) Mention two of its chemical properties. [1]
(iii) Name any two cash crops grown in it. [1]

Question 4

- (a) Mention two causes for the decline of forest cover in India. [2]
- (b) Define "natural vegetation". Name the most important factor which influences the distribution of natural vegetation in the Himalayas. [2]
- (c) (i) State two characteristics of tropical thorn forests. [2]
(ii) Name two states where they are found. [1]
- (d) (i) Why do tropical evergreen forests appear green all the year round? [1]
(ii) Give two reasons why they are difficult to exploit. [2]

Question 5

- (a) Differentiate between inundation and perennial canals. [2]
(b) Give any four ways of recharging ground water. [2]
(c) What are the advantages of tube wells over ordinary wells? [3]
(d) (i) Where in India is tank irrigation more popular? [1]
(ii) Give two reasons to support your answer. [2]

Question 6

- (a) Why is road transport favoured in the northern plains of India? [2]
(b) What is the significance of waterways in the growth of civilization and economy? [2]
(c) What is NHDP? Name the metro cities which have been connected by the Golden Quadrilateral. [1+2]
(d) Give a reason for each of the following:
(i) It is essential to develop a cheap and efficient system of transport in India. [1]
(ii) Road transport is becoming more popular than other means of transport. [1]
(iii) Air transport is used only for high value goods and passenger services. [1]

Question 7

- (a) Mention two reasons as to why canal irrigation is more popular in Northern India. [1]
- (b) Mention any two states where well irrigation is widely used. Give one reason as to why well irrigation is common in the states mentioned by you. [1]
- (c) Explain the need for soil conservation in India. State any two methods of soil conservation. [1½]
- (d) How is red soil formed? State two reasons for the low productivity of the red soil. [1½]

Question 8

- (a) What are the two main advantages of forests? [1]
- (b) Mention two characteristics of tropical deciduous forests. [1]
- (c) What are the major problems of Indian Railways? [1]
- (d) Name the following:
(i) The organization that lays and maintains the state highways. [1]
(ii) An Expressway in South India. [1]
(iii) A major port which is not located on the sea coast. [1]

Question 9

- (a) What is the importance of ports for the Indian economy? [1]
- (b) "Rainsfall is an important factor which decides the type of vegetation of a particular region". Justify. [1]
- (c) What is water scarcity? Mention any two factors responsible for water scarcity. [1½]
- (d) Explain the following terms:
(i) Transported soil [1]
(ii) Humus [1]
(iii) In-situ. [1]

THE FIRST COMPARATIVE EXAMINATION 2019-20
Class X (ICSE)
History & Civics – H. C. G. – Paper 1

Time: Two hours

Maximum marks: 80

Instructions:

- Answers to this paper must be written on the answer script provided separately.
- All subsections of each question must be answered in the correct order.
- You are NOT allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- The time given at the head of this paper is the time allowed for writing the answers.
- Please do not write anything on your question paper except your name and roll number.
- The intended marks for questions or parts of questions are given in brackets [].
- Do not copy the questions on your answer script but copy the correct question number.
- Part I is compulsory. Attempt two questions out of three from Section A and three questions out of five from Section B. A total of five questions will be attempted from Part II.

PART I [30 marks]

Attempt all questions from this Part.

Question 1

- (a) Name the two types of authority in a federal set up in India. [1]
(b) Name the main constituents of the Indian Parliament. [1]
(c) What happens if the Lok Sabha and the Rajya Sabha fail to agree on a non-money bill? [1]
(d) What is the maximum strength of the Lok Sabha? How many members are nominated by the President? [1]
(e) What is 'Quorum'? What is the quorum of the Lok Sabha? [1]
(f) What is the maximum gap allowed between the two parliamentary sessions? [1]
(g) Name the law making body of the Union Government. [1]
(h) What do we mean when we say that the Rajya Sabha is a permanent body? [1]
(i) Name the bill that cannot originate in the Rajya Sabha. [1]
(j) Who presides over the joint sitting of both the houses of the Parliament? [1]

Question 2

- (a) What was Nana Saheb's main grievance against the British? [2]
(b) Mention any two changes that the British Government brought about, after the Revolt of 1857, regarding the relations with Princely States. [2]
(c) What is meant by the Doctrine of Lapse? [2]
(d) Mention any two contributions of Jyotiba Phule to the National Movement. [2]

- (e) Name the two precursors of the Indian National Congress. [2]
(f) Write any two repressive policies of Lord Lytton that promoted the growth of nationalism. [2]
(g) Mention two basic reasons responsible for the Surat Split of 1907 between the early nationalists and the assertive nationalists. [2]
(h) Write any two contributions of Raja Ram Mohan Roy. [2]
(i) Name the signatory countries of the Triple Alliance and the Triple Entente. [2]
(j) Mention any two differences in the ideologies of Fascism and Nazism. [2]

PART II [50 marks]

SECTION A

Attempt any two questions from this Section.

Question 3

With reference to the Union Parliament, answer the following questions:

- (a) How are the members of the Lok Sabha elected? What are the qualifications required to contest the elections for the Lok Sabha? [3]
(b) Two houses of the Parliament enjoy co-equal powers in many spheres. Explain it by giving three examples. [3]
(c) Explain:
 (i) Question Hour
 (ii) No-Confidence Motion. [2] [2]

Question 4

With reference to the Union Parliament, answer the following:

- (a) What is the composition of the Rajya Sabha? [3]
(b) Mention three administrative functions of the Speaker. [3]
(c) Write the four disciplinary functions of the Speaker. [4]

Question 5

With reference to the powers and functions of the Union Parliament, answer the following:

- (a) What are the exclusive powers of the Rajya Sabha? [3]
(b) Mention any three legislative powers of the Rajya Sabha. [3]
(c) Mention two judicial and two financial powers of the Parliament. [4]

SECTION B

Attempt any three questions from this Section.

Question 6

With reference to the First War of Independence, 1857, answer the following questions:

- (a) Mention any three socio religious reforms that invoked adverse reaction from the Indian masses. [3]
- (b) What was the immediate cause of the Revolt of 1857? [3]
- (c) Explain any two military and economic causes of the Revolt of 1857. [4]

Question 7

With reference to the First and the Second phase of the Indian National Movement, answer the following:

- (a) Who is known as the 'Father of Indian Nationalism'? Write any two of his contributions. [3]
- (b) What was Lord Curzon's argument in favour of the partition of Bengal? How did the nationalists interpret it? [3]
- (c) Highlight two different methods of struggle adopted by the early and the assertive nationalists. [4]

Question 8



- (a) Identify the picture. Mention his role in the formation of the Muslim League. [3]
- (b) Mention the objectives of the Muslim League. [3]
- (c) What was the significance of the Lucknow Pact? [4]

Question 9

With reference to the First World War, answer the following:

- (a) Explain the immediate cause of the First World War. [3]
(b) What were the territorial rearrangements made after the First World War? [3]
(c) List the main terms of the Treaty of Versailles. [4]

Question 10

With reference to Fascism and Nazism, answer the following:

- (a) State three similarities between the ideologies of Fascism and Nazism. [3]
(b) How did the Anti Semitic propaganda become a cause for the rise of Nazism in Germany? [3]
(c) How did the following become a cause for the rise of Fascism in Italy?
 (i) Economic crisis
 (ii) Failure of the League of Nations. [4]

THE FIRST COMPARATIVE EXAMINATION 2019-20

Class X

HINDI

Time: Three hours

Maximum marks: 80

Instructions:

- Answers to this paper must be written on the paper provided separately.
- You will NOT be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- The time given at the head of this paper is the time allowed for writing the answers.
- This paper comprises two sections; Section A and Section B. Attempt all the questions from Section A. Attempt any four questions from Section B, answering at least one question each from the two books you have studied and any two other questions.
- The intended marks for questions or parts of questions are given in brackets [].

SECTION A [40 marks]

Attempt all questions.

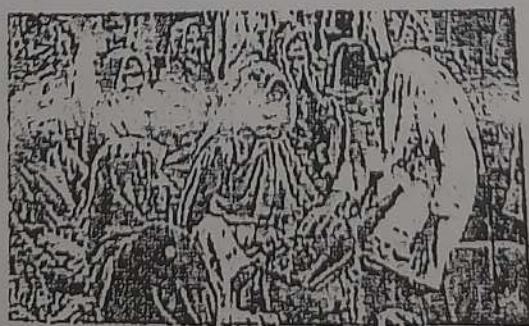
Question 1

Write a short composition in Hindi in not less than 250 words on any one
of the following topics:-

[15]

निनालिखित विषयों में से किसी एक पर संक्षिप्त निबंध लिखिए जो 250 शब्दों से कम
न हो:-

- (i) आजकल यद्ये प्रायः माता-पिता एवं गुरुजनों का उचित सम्मान नहीं करते। आपकी
दौट ने क्या यह ढीक है? इसके कारणों को स्पष्ट करते हुए यह भी वताइये कि
जंतान का नाता-पिता तथा शिष्यों का गुरुजनों के प्रति क्या कर्तव्य होना चाहिए।
- (ii) जपने त्वूर की तरफ से आयोजित किसी शैक्षिक-यात्रा का वर्णन कीजिए।
- (iii) नविय ने चाँद पर एक नयी दुनिया बसने जा रही है। क्या आप उस नयी दुनिया में
रहना चाहेंगे? यदि हाँ, तो आप वहाँ क्या-क्या आवश्यक प्रयत्न करेंगे ताकि उस
नयी दुनिया में सुख-शांति का वास हो।
- (iv) 'दाएं पेड़ बबूल का तो आप कहाँ से होय' - इस लोकोक्ति को आधार मानकर कोई
नालिक कहानी लिखिए।
- (v) दिए गये चित्र को ध्यान से देखिए और चित्र को आधार बनाकर कोई लेख, कहानी
अथवा घटना लिखिए जिसका सीधा य स्पष्ट संबन्ध चित्र से होना चाहिए।



Question 2

Question 2
Write a letter in Hindi in approximately 120 words on any *one* of the topics given below:-

(7)

निम्नलिखित में से किसी एक विषय पर हिन्दी में लगभग १२० शब्दों में पत्र लिखिए:-
— ने निम्नोंका को पत्र

- (i) कर्मचारियों की अशुद्ध हिन्दी के विषय में सुधार हेतु दूरदर्शन के महानिदेशक का पत्र लिखिए।

(ii) अपने पिताजी को पत्र लिखकर अपनी शैक्षिक उपलब्धियों व जीवन के लक्ष्य के बारे में बताइए।

Question 3

Question 3
Read the passage given below and answer in Hindi the questions that follow, using your own words as far as possible:-

निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़िए तथा उसके नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए। उत्तर यथासंभव आपके अपने शब्दों में होने चाहिए:-

तिखिए। उत्तर यथासंमय आपक अपन शब्दो न हो। बाद।

एक कुरै में एक मेंढक रहता था। एक बार एक और मेंढक कुरै में आ पहुँचा, तो कुरै के मेंढक ने उसका हाल-चाल, अता-पता पूछा। जब उसे जात हुआ कि वह मेंढक समुद्र में रहता है और समुद्र यहुत बड़ा होता है, तो उसने अपने कुरै के पानी में एक छोटा-सा चक्कर लगाकर उस समुद्र के मेंढक से पूछा कि यथा समुद्र इतना बड़ा होता है ? कुरै के मेंढक ने तो कभी समुद्र देखा ही नहीं था। समुद्र के मेंढक ने उसे यताया कि इससे भी बड़ा होता है। कुरै का मेंढक चक्कर लगाकर पूछा— “यथा इतना बड़ा है तेरा समुद ?” इस पर समुद के मेंढक ने कहा— “इससे भी यहुत बड़ा।” अब तो कुरै के मेंढक को क्षोब्ह हो आ गया। कुरै के अतिरिक्त उसने बाहर की दुनिया तो देखी ही नहीं थी। उसने कह दिया— “जा, तू झूठ बोलता है। कुरै से बड़ा कुछ होता ही नहीं। समुद्र भी कुछ नहीं होता है।”

कुएँ में मेंढक वाली कथा इस प्रसंग में चरितार्थ होती है कि जितना अध्ययन होगा, उतना अपने अज्ञान का आभास होगा। आज जीवन में पग-पग पर हमें ऐसे कुएँ के मेंढक मिल जाएंगे, जो केवल यही मानकर बैठे हैं कि जितना वे जानते हैं, उसी का नाम ज्ञान है। उसके उधर-उधर और बाहर कुछ भी ज्ञान नहीं है, लेकिन सत्य तो यह है कि ज्ञान की माँति ज्ञान की भी कोई सीमा नहीं है। अपने ज्ञानी होने के अज्ञानमय प्रम को बदि तोड़ना हो तो अधिक-से-अधिक अध्ययन करना आवश्यक है। जितना अधिक अध्ययन किया जाएगा, प्रम टूटेगा और ऐसा आमास होगा कि अभी तो वहुत कुछ जानना और पढ़ना शेष है।

अधिकाधिक अध्ययन करते रहने से एक मानसिक परितोष, आनंद और शांति अवश्य प्राप्त होती है। उसके आगे और अध्ययन करने की जिज्ञासा भी उत्पन्न होती है। अधिक अध्ययन करने से मनुष्य के हृदय की संकीर्णता समाप्त हो जाती है तथा उसका दृष्टिकोण उदार होता जाता है। सतत अध्ययनशीलता और दृष्टि की उदारता शनैः शनैः व्यक्ति को पूर्णता और पवित्रता दी और ले जाती है।

सतत अध्ययन मनुष्य की आंतरिक सत्त्ववृत्तियों को विकसित करता है। शारीरिक, मानसिक और आत्मिक उन्नति द्वारा मनुष्य की पाशाधिक प्रवृत्तियों को दूर कर उसे शुद्ध और पवित्र बनाता है; मनुष्य को सच्चे अर्थों में गनुभ्वता की प्राप्ति करता है।

- (i) कुएँ के मेंढक ने समुद्र की विशालता का अनुमान किस प्रकार किया और क्यों ? [2]
- (ii) कुएँ के मेंढक को ब्रोघ क्य और क्यों आया ? [2]
- (iii) अपने ज्ञानी होने के भ्रम को कैसे तोड़ा जा सकता है ? [2]
- (iv) अधिकाधिक अध्ययन से क्या लाभ होते हैं ? [2]
- (v) उपर्युक्त गद्यांश से कौन-सी शिक्षा प्राप्त होती है ? [2]

Question 4

Answer the following according to the instructions given:-

निम्नलिखित प्रश्नों के उत्तर निर्देशानुसार दीजिए:-

- (i) निम्नलिखित शब्दों की भाववाचक संज्ञा बनाइए:- [1]
आलसी, नक्त
- (ii) निम्नलिखित शब्दों में से किन्हीं दो शब्दों के विलोम लिखिए:- [1]
अमावस्या, निरक्षर, आरोह, भूक
- (iii) निम्नलिखित में से किसी एक शब्द के दो पर्यायवाची लिखिए:- [1]
उद्यान, अरण्य
- (iv) निम्नलिखित मुहावरों में से किसी एक की सहायता से वाक्य बनाइए:- [1]
गागर में सागर, कलई खुलना
- (v) निम्नलिखित शब्दों में से किन्हीं दो शब्दों को शुद्ध कीजिए:- [1]
अंतमुखी, अलोचना, इतिहासिक, तपस्यनी
- (vi) कांठक में दिए गए वाक्यों में निर्देशानुराग परिवर्तन कीजिए:-
(a) कुएँ के मेंढक ने समुद्र नहीं देखा था। (नहीं उटाकर चाप्य लिखिए, पर वाक्य का अर्थ न बदलें) [1]

(b) युवती कपिला पढ़ रही है। (गुरुगच्छन ने गदतिरि)

[1]

(c) पिछान पुरुष रस्ताट के साथ रहते हैं। (जीवं प्रक्रोति वं चर्दतिरि)

[1]

SECTION B [40 marks]

Attempt four questions from this section.

You must answer at least one question from each of the two books you have studied and any two other questions.

साहित्य-सागर

गदय खंड

Question 5

Read the extract given below and answer in Hindi the questions that follow:-

निम्नलिखित गदयांश को ध्यानपूर्वक पढ़िए तथा उसके नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

किशोरी ने आकर डल्ला मधा दिया, "भाभी, अरे भाभी ! देखा नहीं तूने, न ! निहाल नावू रो रहे हैं ! अरे, तू चल भी !"

- संदेह -

लेखक - जयरामकर प्रसाद

(i) राम निहाल के हाथों में बया था व उसके असमंजस का कानून बया था ? [2]

(ii) कामरे में विद्युगान प्रतिगातों का वर्णन अपने शब्दों में फीजिए। [2]

(iii) उपर्युक्त कथन किसने, किससे तथा क्यों कहा ? [3]

(iv) संदेह कहानी का उद्देश्य स्पष्ट कीजिए। [3]

Question 6

Read the extract given below and answer in Hindi the questions that follow:-

निम्नलिखित गदयांश को ध्यानपूर्वक पढ़िए तथा उसके नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

उसने कोई बहाना न बनाया। चाहता तो कह सकता था कि यह साज़िश है।

- वात अठनी की -

लेखक - सुदर्शन

(i) किसे, कौन फँसा रहा था ? [2]

(ii) रसीला कौन था ? उसका परिचय दीजिए। [2]

(iii) हरे अपने नोकरों के साथ कैसा व्यवहार करना चाहिए? कहानी के अधार पर उदाहरण देकर समझाइए।

[3]

(iv) इस कहानी में लेखक ने जमाज की कौन-सी बुराई को प्रकट करने का प्रयत्न किया है? या वे अपने प्रयत्न में सफल हुए हैं? समझाकर लिखिए।

[3]

Question 7

Read the extract given below and answer in Hindi the questions that follow:-

निम्नलिखित गद्यांश को व्यानपूर्वक पढ़िए तथा उसके नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

पर “सब दिन होत न एक समान” अकस्मात् दिन फिरे और सेठ को गरीबी का मुँह देखना पड़ा।

— महायज्ञ का पुरस्कार —

लेखक ~ यशपाल

(i) अकस्मात् किसका युरा समय आ गया था तथा युरा समय आने से पहले उसकी दशा कैसी थी?

[2]

(ii) अपना युरा समय दूर करने के लिए सेठ ने क्या उपाय सोचा? इस उपाय के लिए उन्हें किसके पास जाना पड़ा?

[2]

(iii) सेठ ने कौन-सा महायज्ञ किया था? क्या वह यात्राय में महायज्ञ था? समझाकर लिखिए।

[3]

(iv) ‘महायज्ञ का पुरस्कार’ कहानी का उद्देश्य लिखिए।

[3]

साहित्य-सागर

पद्य खण्ड

Question 8

Read the extract given below and answer in Hindi the questions that follow:-

निम्नलिखित पद्यांश को पढ़िए और उसके नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

जाके प्रिय न राम देही।

तजिए ताहि कोटि दैरी सम जदपि परम सनेही॥

तज्यो पिता प्रह्लाद, विभीषण वन्दु, भरत महतारी।

यलि मुरु तज्यो, कंत द्रज वनितद्वि, भए-मुद मंगलकारी॥

— विनय के पद —

कवि — तुलसीदास

(i) कवि के अनुसार कैसे व्यक्ति का जीवन मंगलकारी है?

[2]

- (ii) कैसे व्यक्तियों को गतियों के समान समझना चाहिए और क्यों ? [2]
- (iii) प्रह्लाद, यजीपण, भरत आदि के उदाहरण द्वारा कवि क्या स्पष्ट करना चाहते हैं ? [3]
- (iv) तुलसीदास जी का परिचय दीजिए। [3]

Question 9

Read the extract given below and answer in Hindi the questions that follow:-
निम्नलिखित पद्यांश को ध्यानपूर्वक पढ़िए तथा नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

मूख से सूख और जय जाते, दाता-माय, विदाता से क्या पाते ?
धूट आँसुओं के पीकर रह जाते। चाट रहे जूठी पत्तले वे कभी सड़क पर खड़े हुए,
और झपट लेने को उनसे कुत्तों भी हैं अड़े हुए। वहरों, अहों मेरे हृदय में हैं अमृत,
मैं सींच दूँगा। अभिमन्यु—जैसे हो जकोगे तुम, तुम्हारे दुख में अपने हृदय में खींच लूँगा।

— भिक्षुक —

कवि—सूर्यकांत त्रिपाठी 'निराला'

- (i) भिक्षुक कवि आँसुओं के धूट पीकर रह जाते हैं ? [2]
- (ii) वे अपनी मूख कैसे मिठाने को विवरा हैं ? [2]
- (iii) 'और झपट लेने को उनसे कुत्तं भी है अड़े सुए' — आशाय स्पष्ट कीजिए। [3]
- (iv) कवि गिर्धुक को क्या प्रेरणा दे रहे हैं ? [3]

Question 10

Read the extract given below and answer in Hindi the questions that follow:-

निम्नलिखित पद्यांश को ध्यानपूर्वक पढ़िए तथा नीचे लिखे प्रश्नों के उत्तर हिन्दी में लिखिए:-

लेकिन विघ्न अनेक अभी इस पथ पर अड़े हुए हैं

मानवता की राह रोककर पर्वत खड़े हुए हैं।

न्यायोचित सुख सुखमन्त्वाहीं जय तक मानव-मानव को

चैन कहाँ धरती पर तब तक शांति कहाँ इस भव को ?

— स्वर्ग यना सकते हैं —

कवि — सामधारी सिंह 'दिनकर'

- (i) किस मार्ग में अनेक बाधाएँ हैं तथा मानवता की राह रोककर कौन खड़ा है ? [2]
- (ii) संसार में व्यक्ति को कौन—सा सुख प्राप्त नहीं है ? [2]
- (iii) विकास के मार्ग में आने वाली किन समस्याओं का वर्णन कवि ने किया है ? [3]
- (iv) 'चैन कहाँ धरती पर तब तक शांति कहाँ इस भव को ?' ऐसा क्यों कहा गया है ? [3]

THE FIRST COMPARATIVE EXAMINATION 2019-20
Class X (ICSE)
COMPUTER APPLICATIONS

Time: Two hours

Maximum marks: 100

Instructions:

- * Answers to this paper must be written on the answer script provided separately.
- * All subsections of each question are to be answered in the correct order.
- * All working including rough work should be done on the same sheet as the rest of the answer.
- * You will not be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- * The time given at the head of the paper is the time allowed for writing the answers.
- * Please do not write anything on the question paper except your name and roll number.
- * The intended marks for questions or parts of questions are given in brackets [].
- * Attempt all questions from Section A and any four questions from Section B.

SECTION A [40 marks]

Attempt all questions from this section.

Question 1

Answer the following questions:

- (a) Write the keyword:

- (i) that forces the next iteration in a loop
(ii) that prevents fall through in a switch case construct.

[2]

- (b) Write an expression in Java for:

$$z = \frac{x^y + y^x}{(x + y)} + (x \times y)$$

[2]

- (c) Explain "Mixed expression" with the help of an example.

[2]

- (d) Arrange the given data types in ascending order of their size:
double, char, int, boolean.

[2]

- (e) Rewrite the following code using "for" loop:

```
int X = 5, Y = 10;  
do  
{  
    System.out.print(X%Y + ",");  
    X = X + 2;  
    Y = Y - 1;  
} while (X <= Y);
```

[2]

Question 2

- (a) What are relational operators? What type of value they return? [2]
- (b) Explain why class is known as an "object factory". [2]
- (c) Define "Explicit Type conversion" with the help of one suitable example. [2]
- (d) Answer the following questions:
- Name the keyword that is used to define a variable whose value cannot be changed during the execution of java program. [2]
 - How will you find the total number of elements of an array? [2]
- (e) Explain default case as used in switch case construct. [2]
- (f) In the following code consider M as a character type variable storing choice of the user.
- ```
switch (M)
{
 case 'A' : System.out.println("APPLE");
 case 'E' :
 case 'I' : System.out.print ("INDIGO");
 default : System.out.println ("WRONG");
}
```

What will be the output if M is:

- 'A'
- 'a'
- 'I'
- 'E'

(g) What is an identifier? Give an example. [2]

What are comments or remarks in a java program? Explain multiline comments in java. [2]

- Write a java statement to declare an array to store age of 55 students. [2]
- Explain logical error with the help of an example. [2]

**Question 3**

Analyze the following code and write the output:

- `System.out.println(a >= b);` [where a = 5 and b = 9] [2]
- `int Num = 23;`  
`while(Num > 0)`  
`{`  
 `System.out.print(Num % 2 + " ");`  
 `Num = Num / 2;`  
`}`

[2]

- (c) `int X = 5, Y = 10;  
System.out.println(++X + --Y);  
System.out.print(X + Y);` [2]
- (d) `int m = 2, n = 5;  
System.out.println( m-- + --n >= 0 ? ++m : --n);` [2]
- (e) `System.out.println('X' > 'Y');` [2]

### SECTION B [60 marks]

*Attempt any four questions from this section.*

*The answers in this Section should consist of the Program in Blue J environment with Java. Each program should be written using Variable descriptions/Mnemonic Codes such that the logic of the program is clearly depicted.*

*Flow-charts and Algorithms are not required.*

#### Question 4

Write a program in Java to input integers in an array Arr[] of size 10. Increase the value of each element by 10. Print original as well as the updated array. [15]

#### Question 5

Write a program in Java to calculate and print the value of S, where:

$$S = 1 + (1 \times 2) + (1 \times 2 \times 3) + (1 \times 2 \times 3 \times 4) + \dots + (1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9) \quad [15]$$

#### Question 6

Write a menu driven program in Java using switch - case - default construct for the following options:

- (1) to print absolute value of an inputted number n
- (2) to print a random number
- (3) to find and print the square root of an inputted number
- (4) exit.

[Use functions of Math class wherever required.]

[15]

#### Question 7

Write a program in Java to accept a number. Check and display whether it is a NIVEN number or not.

(Niven number is that number which is completely divisible by the sum of its digits.

For example, if the inputted number is 126

then the sum of its digits  $1 + 2 + 6 = 9$  and 126 is divisible by 9.)

[15]

**Question 8**

Write a program in Java to print the following pattern on computer screen, using nested "for" looping statement.

3  
3 3  
3 3 3  
3 3 3 3  
3 3 3 3 3

[15]

**Question 9**

Write a program in Java to define a class Bill which accepts electricity units consumed by a customer in a month. Calculate and print the electricity bill to be paid by a customer as per the following criteria:

| Number of units consumed | Charge per unit |
|--------------------------|-----------------|
| up to 100 units          | ₹ 1.50          |
| for the next 100 units   | ₹ 2.00          |
| for the next 50 units    | ₹ 2.50          |
| beyond 250 units         | ₹ 4.00          |

Assume that the customer pays an additional rent for the meter which is charged as ₹ 100 per month.

[15]

101  
100  

---

1

THE FIRST COMPARATIVE EXAMINATION 2019-20  
Class X (ICSE)  
BIOLOGY  
SCIENCE Paper - 3

Time: Two hours  
Instructions:

Maximum marks: 80

- Answers to this paper must be written on the answer script provided separately.
- You will NOT be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- The time given at the head of this paper is the time allowed for writing the answers.
- The intended marks for questions or parts of questions are given in brackets [ ].
- Please do not write anything on your question paper except your name and roll number.
- All subsections of each question must be answered in the correct order.
- Do not copy the questions on your answer script. Copy the correct question number.
- This question paper consists of two sections. Section I contains one question with eight parts (a) to (h). All the parts are compulsory. Section II contains six questions numbered 2 to 7. You have to answer any four of these questions.

SECTION I [40 marks]

Attempt all questions from this Section.

Question 1

[5]

- (a) Name the following: [5]
- (i) A waxy layer on the epidermis of the leaf
  - (ii) A sudden change in one or more genes
  - (iii) A membrane that disappears during late prophase
  - (iv) The chemical substance used to test the presence of starch in the cell of a leaf
  - (v) An instrument used to demonstrate root pressure.
- (b) Mention the significant function of: [5]
- (i) Chlorophyll
  - (ii) Root hair
  - (iii) Lenticel
  - (iv) Centromere
  - (v) Guard cells.
- (c) Choose the correct answer from the four options given below: [5]
- (i) Which of the following is NOT the end product of photolysis?
- |                                                   |                    |
|---------------------------------------------------|--------------------|
| (A) NADPH                                         | (B) O <sub>2</sub> |
| (C) C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> | (D) ATP.           |

Z - 1

This paper consists of seven printed pages.

Turn over



- (iii) Endodermis, Root hair, Pericycle, Xylem, Cortex
- (iv) G<sub>1</sub>, S, G<sub>2</sub>, Cytokinesis, Karyokinesis
- (v) Photons, Water molecule, Oxygen, Grana, Hydrogen and hydroxyl ions.

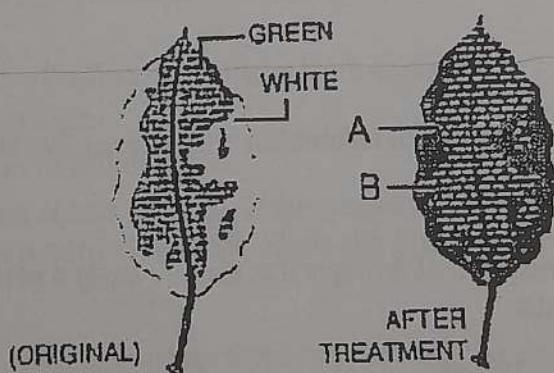
(g) Match the items given in Column A with the most appropriate ones in Column B. Rewrite the correct matching pairs:

[5]

|       | Column A           | Column B      |
|-------|--------------------|---------------|
| (i)   | Centriole          | Cut shoot     |
| (ii)  | Autosomes in human | Stroma        |
| (iii) | Sunken stomata     | Aster         |
| (iv)  | Thylakoid          | <i>Nerium</i> |
| (v)   | Bleeding           | 23 pairs      |
|       |                    | 22 pairs      |
|       |                    | Grana         |

(h) The diagram given below is an experiment conducted to study a factor necessary for photosynthesis. Observe the diagrams and answer the questions that follow:

[5]



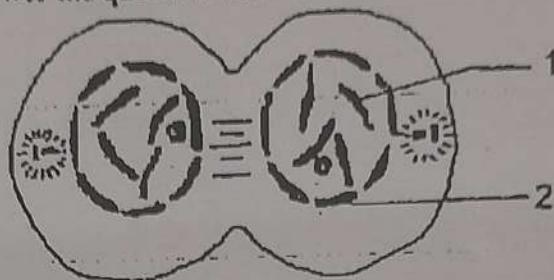
- (i) What is the aim of the experiment?
- (ii) What type of leaf was used for the experiment? Give an example.
- (iii) Why was the experimental plant kept in the dark before beginning the experiment?
- (iv) What is the expected result of the starch test on the parts labelled A and B?
- (v) Write a balanced chemical equation to represent the process of photosynthesis.

## SECTION II [40 marks]

Attempt any four questions from this Section.

### Question 2

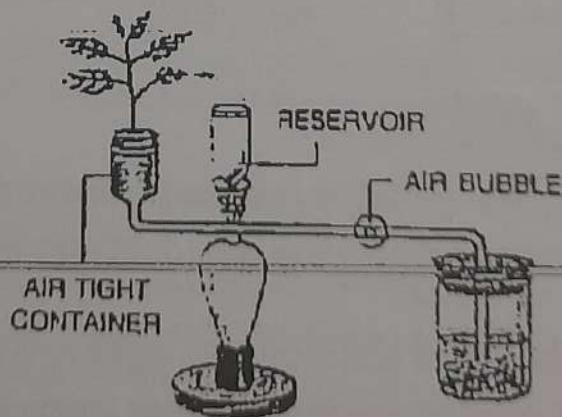
- (a) Study the diagram given below which represents a stage during the mitotic cell division and answer the questions that follow:



- Identify the stage by giving a suitable reason.
  - Name the parts numbered 1 and 2.
  - Mention the stage that comes before the stage shown in the diagram.  
Draw a neat labelled diagram of the stage mentioned.
- (b) Write the full form of:
- NADP
  - ATP.
- (c) Draw a well labelled diagram of chloroplast with at least five labellings.

### Question 3

- (a) Given below is the diagram of an apparatus used to study a particular phenomenon in plants:



- Name the apparatus.
- What is it used for?
- What is the role played by the air-bubble in this experiment?
- What is the use of the reservoir?
- Draw a neat labelled diagram of stomatal apparatus.

(b) Differentiate between each of the following pairs on the basis of the given parameters:

[5]

- (i) Hypotonic solution and Hypertonic solution (Definition)
- (ii) Osmosis and Active transport (Movement of molecules)
- (iii) Chromosome and Chromatid (Definition)
- (iv) Homozygous and Heterozygous (Definition)
- (v) Cell wall and Cell membrane (Permeability).

#### Question 4

(a) A homozygous plant having round (R) and yellow (Y) seed is crossed with homozygous plant having wrinkled (r) and green (y) seeds.

[1+1]

- (i) Give the scientific name of the plant on which Mendel conducted his hybridization experiments. Give any two reasons for selection of the same.

[1]

- (ii) Give the phenotype of the offspring of the  $F_2$  generation when two plants of the  $F_1$  generation are crossed.

[1]

- (iii) Name and state the law which explains the dihybrid ratio.

[1]

- (iv) Give the possible combination of gametes that can be obtained from  $F_1$  hybrid.

[1]

[2]

(b) Name the type of cell division that occurs during:

- (i) growth of shoot

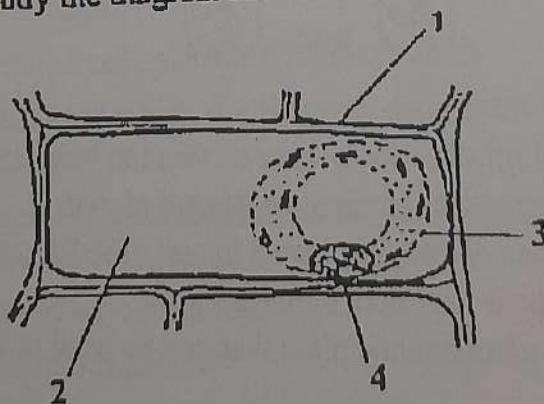
- (ii) formation of pollen grain.

(c) Draw a Punnett square to find out the progeny of a marriage between a colour blind man and a normal woman. Show the genotype and phenotype.

[3]

#### Question 5

(a) The diagram given below represents a plant cell after being placed in a strong sugar solution. Study the diagram and answer the questions that follow:



- (i) Name the state of the cell shown in the diagram.

[1]

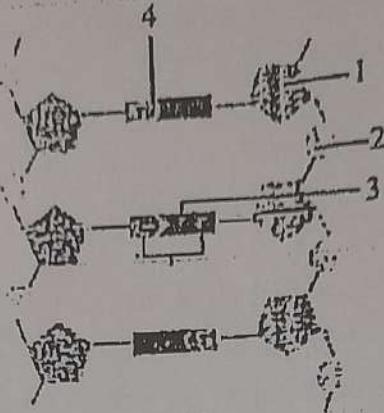
- (ii) Label the parts numbered 1 to 4 in the diagram.

[2]

- (iii) How can the above cell be brought back to its original condition?  
Mention the scientific term for the recovery of the cell.

[2]

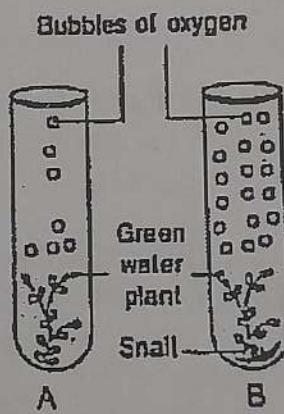
- (b) Study the diagram given below and answer the questions that follow:



- (i) Label the parts 1 – 4. [2]  
(ii) What are rungs of DNA made up of? [1]  
(iii) Name the nitrogenous bases present in DNA. [2]

#### Question 6

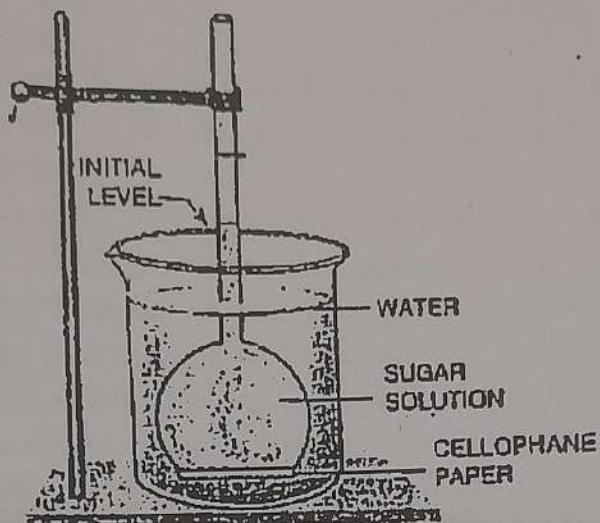
- (a) The diagram given below shows test tubes A and B. Test tube A contains an aquatic plant. Test tube B contains both an aquatic plant as well as a snail. Both test tubes are kept in sunlight. Answer the questions that follow:



- (i) Name the physiological process that releases the bubbles of oxygen. [1]  
(ii) Explain the physiological process mentioned above. [1]  
(iii) What is the purpose of keeping a snail in test tube B? [1]  
(iv) Why does test tube B has more bubbles? [1]  
(v) Give an example of an aquatic plant that can be used in the above experiment. [1]
- (b) Define the following: [5]
- Active transport
  - Guttation
  - Root pressure
  - Haploid cell
  - Monohybrid Cross.

### Question 7

(a) Study the diagram given below and answer the questions that follow:



- (i) Define the process shown in the diagram. [1]
- (ii) State your observation after an hour or so. [1]
- (iii) Suggest a control set up for the experimental set up shown above. [1]
- (b) Differentiate between the following terms: [2]
- (i) Turgor pressure and Wall pressure
  - (ii) Gene and allele.
- (c) Give an appropriate biological or technical term for each of the following: [5]
- (i) The exchange of chromatid material between the two members of a homologous pair
  - (ii) Paper used to test transpired water
  - (iii) Fully distended state of a cell
  - (iv) The site of biosynthetic phase of photosynthesis
  - (v) The phenomenon by which the living or dead plant cells absorb water by surface attraction
  - (vi) Relative concentration of the solution that determines the direction and extent of diffusion
  - (vii) A disease caused by a gene mutation
  - (viii) Alternative form of character
  - (ix) Point of attachment of sister chromatids
  - (x) Conversion of ADP to ATP.

THE FIRST COMPARATIVE EXAMINATION 2019-20  
CLASS X (ICSE)  
PHYSICS  
SCIENCE Paper - 1

Time: Two hours

Maximum marks: 80

Instructions:

- \* Answers to this paper must be written on the answer script provided separately.
- \* You will NOT be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.
- \* The time given at the head of this paper is the time allowed for writing the answers.
- \* All subsections of each question must be answered in the correct order.
- \* Please do not write anything on the question paper except your name and roll number.
- \* The intended marks for questions or parts of questions are given in brackets [ ].
- \* Section I is compulsory. Attempt any four questions from Section II.

SECTION I [40 marks]

Attempt all questions from this section.

Question 1

- (a) Can the moment of force be zero even if the force is not zero? If so, when? [2]
- (b) How is refractive index of a medium related to the speed of light in it and in vacuum? If refractive index of water with respect to air is  $4/3$ , what is refractive index of air with respect to water? [2]
- (c) How is uniform circular motion different from uniform linear motion? [2]
- (d) Calculate the kinetic energy of a body of mass  $0.10\text{ kg}$  and momentum  $20\text{ kgms}^{-1}$ . [2]
- (e) (i) How is critical angle related to the refractive index of the medium?  
(ii) Does the depth of a tank of water appear to change or remain the same when viewed normally from above? It changes; It appears to be shallower than its original depth [2]

Question 2

- (a) (i) Is centrifugal force the force of reaction of the centripetal force?  
(ii) Compare the magnitudes of centripetal force and centrifugal force. [2]
- (b) What is meant by the statement 'the critical angle for diamond is  $24^\circ$ ' ? [2]
- (c) How is the work done by a force measured when the force:  
(i) is in the direction of displacement  
(ii) is at an angle to the direction of displacement? [2]
- (d) Calculate moment of force needed to loosen a nut by a wrench of length  $20\text{ cm}$  by applying a force of  $2\text{ N}$ . [2]
- (e) Give two factors on which angle of deviation of light depends when passing through a prism. [2]

### Question 3

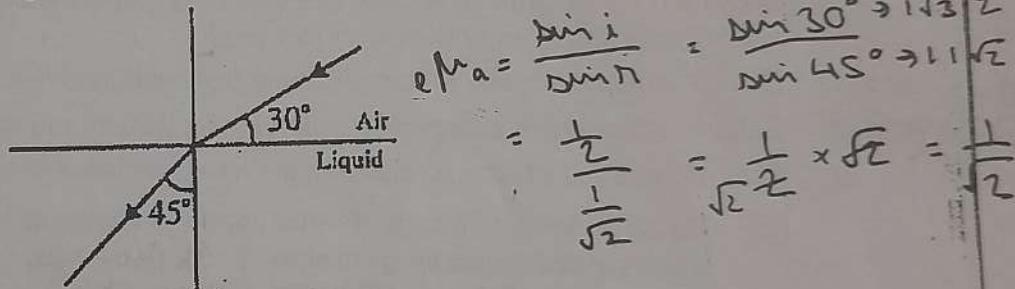
- (a) At which point is the centre of gravity situated in:  
 (i) rhombus point of intersection of its diagonals (ii) scalene triangle? point of intersection of its medians [2]
- (b) A man having a box on his head climbs up a slope and another man having an identical box on his head walks the same distance on a horizontal road. Who does more work and why? The man 1 climbing to slope, the other man does no work due to displacement [2]
- (c) Mention one example for each of the following energy conversions:  
 (i) light energy to chemical energy photosynthesis by plants [2]  
 (ii) electrical energy to sound energy. loudspeakers [2]
- Why is red colour used as danger signal?
- (e) Name a prism required for obtaining spectrum of ultraviolet light.
- (iii) Name the radiation which can be detected by a thermopile.

all from  
spectrum

### Question 4

$$100000 \text{ W} \rightarrow 100000 \text{ Nm/s}$$

- (a) If the power of a motor be 100 kW, at what speed can it raise a load of 50,000 N? [2]
- (b) Find refractive index of liquid with respect to air from the following diagram: [2]



- (c) A lens has focal length of 25 cm. Calculate power of the lens and state its nature. 0.25 m [2]
- (d) State the conditions of equilibrium of a body. + 4.0 D [2]
- (e) You are provided with a printed piece of paper. Using this, how will you differentiate between convex lens and concave lens? [2]

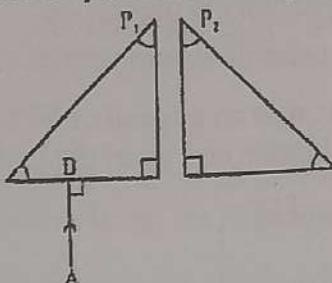
### SECTION II [40 marks]

Attempt any four questions from this section.

### Question 5

- (a) A uniform metre scale can be balanced at 30 cm mark when a mass of 40 g is hung from 5 cm mark.
- (i) Draw a diagram of the arrangement.  
 (ii) Calculate mass of metre scale. [3]

- (b) Two isosceles right prisms are arranged as shown in the figure below. Copy the diagram and complete the path of ray AB along which it passes through the prisms and comes out. Name the phenomenon displayed by the path. [3]



- (c) Draw a diagram to show energy changes in an oscillating simple pendulum and hence show conservation of mechanical energy in it. [4]

**Question 6**

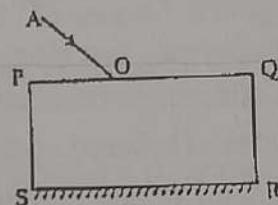
- (a)  How fast a man weighing 600 N should run so that his kinetic energy is 150 Nm  $\leftarrow$  750 J?  $[g = 10 \text{ ms}^{-2}]$  [3]

(ii) What does electron volt measure?

- (b) In the figure given below, a ray of light AO is incident on a rectangular glass block PQRS, which is silvered at the surface RS. The ray is partly reflected and partly refracted.

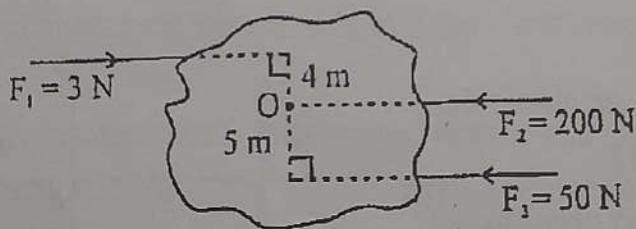
(i) Draw the paths of the reflected and refracted rays.

(ii) Show at least two rays emerging from the surface PQ after reflection from the surface RS.



[3]

- (c) Calculate moment due to  $F_1$ ,  $F_2$ ,  $F_3$  about O and hence the resultant torque on the body. [4]



**Question 7**

- (a) Define nuclear energy. Give one advantage and one disadvantage associated with it when it is used for the production of electricity. [3]

- (b) A postage stamp appears to be raised by 7.0 mm when placed under a rectangular glass block of refractive index 1.5. Find thickness of glass block. [3]

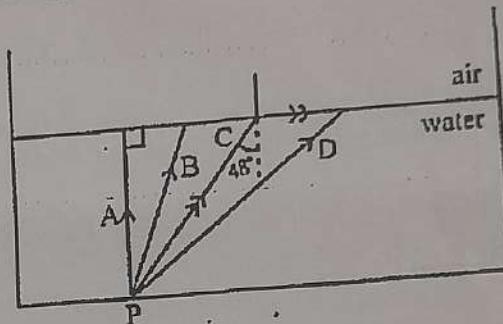
- (c) A boy weighing 40 kg climbs up a stair of 30 steps, each step being 20 cm high, in 4 minutes and a girl weighing 30 kg does the same in 3 minutes. ( $g = 10 \text{ ms}^{-2}$ ). Compare:

(i) work done by them

(ii) power developed by them. [4]

### Question 8

- (a) (i) Give reason for twinkling of stars at night. [3]  
(ii) Give the range of wavelengths of electromagnetic waves visible to us.
- (b) A body of mass 20 kg slows down from a speed of  $50 \text{ ms}^{-1}$  to that of  $40 \text{ ms}^{-1}$  in 2 s. Calculate the change in kinetic energy of the body. [3]
- (c) (i) Complete paths for A, B and D on striking water surface. [4]  
(ii) What is special name for angle made by C on striking at water surface made in water?

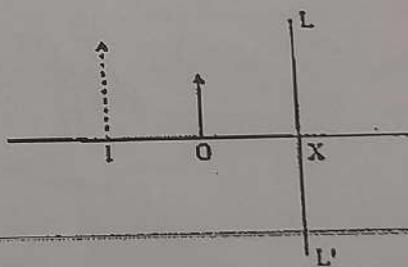


### Question 9

- (a) An object is kept at a distance of 15 cm from a convex lens of focal length 10 cm. Calculate image distance and state characteristics of the image formed. [3]
- (b) (i) Give two differences between X rays and  $\gamma$  rays.  
(ii) Give one use of Infrared rays based on its property. [3]
- (c) An engine can pump 30,000 L of water to a vertical height of 45 m in 10 minutes. Calculate the work done by the machine and the power. [4]  
 $[g = 9.8 \text{ ms}^{-2}, \text{ density of water} = 10^3 \text{ kgm}^{-3}]$

### Question 10

- (a) Study the diagram given alongside:  
(i) Name the lens LL'.  
(ii) Complete the ray diagram. [3]



- (b) A boy uses blue colour and then red colour of light to determine refractive index of glass. Will the refractive index be same or different in the two cases? Give reasons to support your answer. [3]
- (c) A stone is dropped from a height 'h'. Its potential energy at a particular instant is nine times its kinetic energy. When the velocity of the stone becomes double its velocity at that instant, what will be the ratio of its new kinetic energy and new potential energy? [4]

**THE FIRST COMPARATIVE EXAMINATION 2019-20**  
**Class X (ICSE)**  
**SCIENCE Paper-2**  
**CHEMISTRY**

Time: Two hours

Maximum marks: 80

- Answers to this paper must be written on the answer script provided separately.
  - You will NOT be allowed to write during the first 15 minutes.
  - This time is to be spent in reading the question paper.
  - The time given at the head of this paper is the time allowed for writing the answers.
  - The intended marks for questions or parts of questions are given in brackets [ ].
  - All subsections of each question or parts of question must be answered in the correct order.
  - Please do not write anything on your question paper except your name and roll number.
  - This paper is divided into two sections. Section I [40 marks] and Section II [40 marks]. Section I is compulsory. Attempt any four questions from Section II.
  - Give balanced equations wherever required.

**SECTION I [40 marks]**

**SECTION**  
Attempt all questions from this Section.

### Question 1

(b) Fill in the blanks with the choices given in brackets:

- (i) Metals lose electrons during ionization. This process is called \_\_\_\_\_  
(Oxidation / Reduction / Redox).
- (ii) \_\_\_\_\_ (Lead nitrate / Lead sulphate / Lead chloride). A salt which is soluble in hot water but insoluble in cold water is
- (iii) The most electronegative element in the periodic table is \_\_\_\_\_  
(Fluorine / Chlorine / Cesium).
- (iv) The chemical bond formed between two atoms by transfer of electrons is \_\_\_\_\_  
(Electrovalent / Covalent / Polar covalent) bond.
- (v) The hydroxide of \_\_\_\_\_ is soluble in Sodium hydroxide solution  
(Copper / Lead / Magnesium).

(c) State one relevant observation for each of the following:

- (i) Copper [II] sulphide is treated with dilute Hydrochloric acid.
- (ii) Excess Ammonium hydroxide is added to Copper sulphate solution.
- (iii) Dilute Hydrochloric acid is reacted with Lead nitrate.
- (iv) Concentrated Hydrochloric acid is added to Manganese dioxide.
- (v) Barium chloride solution is added to Sodium sulphate solution.

(d) Give a suitable chemical term for each of the following:

- (i) A bond formed by a shared pair of electrons with both electrons coming from the same atom
- (ii) A compound which when dissolved in water yields hydroxyl ions as the only negatively charged ions
- (iii) A salt which is formed by incomplete neutralization of an acid by a base
- (iv) The amount of energy released when an atom in gaseous state accepts an electron to form an anion
- (v) Tendency of an atom to attract electrons towards itself when combined in a compound.

(e) Give a chemical test to distinguish between each of the following pair of compounds:

- (i) Sodium chloride and Sodium nitrate solution
- (ii) Iron (II) chloride and Iron (III) chloride
- (iii) Copper sulphate and Iron (II) sulphate.

[2]

(f) Draw the electron dot structure of:

- (i) Nitrogen molecule [N = 7]
- (ii) Sodium chloride [Na = 11, Cl = 17]

[5]

(g) Give reasons for each of the following statements:

- (i) Hydrogen chloride is a polar covalent compound.
- (ii) A molecule of ammonia has one lone pair of electrons.
- (iii) The oxidizing power of elements increases from left to right along a period in the periodic table.
- (iv) The temperature should not be above  $200^{\circ}\text{C}$  in the laboratory preparation of Hydrogen chloride gas.
- (v) Hydrogen chloride gas cannot be dried over quicklime.

[5]

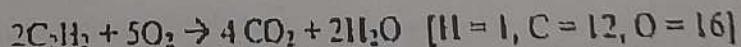
(h) Write a balanced chemical equation for each of the following reactions:

- (i) Calcium bicarbonate reacts with dilute Hydrochloric acid
- (ii) Sodium sulphide reacts with dilute Hydrochloric acid
- (iii) Iron reacts with dilute Hydrochloric acid
- (iv) Sodium carbonate reacts with dilute Hydrochloric acid
- (v) Sodium sulphite reacts with dilute Hydrochloric acid.

[1]

(i) (i) State Gay Lussac's Law.

(ii) Oxygen oxidizes Ethyne to Carbon dioxide and Water as shown by the equation:



[2]

What volume of Ethyne gas at S.T.P. is required to produce  $8.4 \text{ dm}^3$  of Carbon dioxide at S.T.P.?

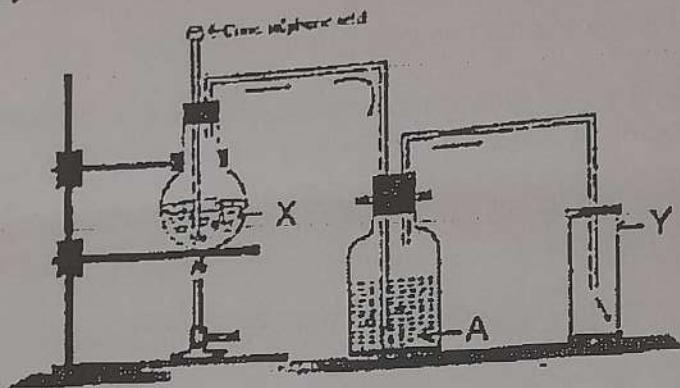
(iii) Calculate the percentage of water of crystallization in Washing soda ( $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ ) [ $\text{Na} = 23, \text{C} = 12, \text{O} = 16, \text{H} = 1$ ].

[2]

**SECTION II [40 marks]**  
Attempt any four questions from this Section.

**Question 2**

- (a) The diagram given below shows the laboratory preparation of Hydrogen chloride gas. Study the same and answer the questions that follow: [4]



- Identify the reagents X and A.
  - Write a balanced chemical equation for the preparation of Hydrogen chloride gas.
  - What happens when a glass rod dipped in  $\text{NH}_4\text{OH}$  solution is brought near the mouth of the gas jar 'Y'?
- (b) Find the empirical formula of a compound containing Na = 29.11%, S = 40.51% and O = 30.38%. [Na = 23, S = 32, O = 16]. [3] Q
- (c) Complete the following chemical equations: [3]
- $\text{Fe} + \text{H}_2\text{SO}_4$  (aq)  $\rightarrow$
  - $\text{NaOH} + \text{H}_2\text{SO}_4$  (aq)  $\rightarrow$
  - $\text{Fe} + \text{Cl}_2 \rightarrow$

**Question 3**

- (a) Some methods (A – E) commonly used in the laboratory preparation of salts are as follows: [4]

A – Metal + acid

D – Direct combination

B – Metal carbonate + acid

E – Titration

C – Precipitation (Double decomposition)

Copy and complete the table given below by filling in the appropriate method of preparation of salts (i) – (iv):

| S.No. | Salt              | Method of Preparation |
|-------|-------------------|-----------------------|
| (i)   | Ammonium sulphate |                       |
| (ii)  | Lead nitrate      |                       |
| (iii) | Zinc sulphate     |                       |
| (iv)  | Calcium carbonate |                       |

- (b) Consider the periodic table given below. Some elements (shaded) are given in their own symbols and position in the periodic table while others are shown with a letter. With reference to the table, answer the questions that follow: [3]

| Group → numbers        | IA<br>1 | IIA<br>2 | IIIA<br>13 | IV A<br>14 | V A<br>15 | VI A<br>16 | VIIA<br>17 | Zero<br>18 |
|------------------------|---------|----------|------------|------------|-----------|------------|------------|------------|
| 2 <sup>nd</sup> Period | Li      |          |            | C          | N         | O          |            | Ne         |
| 3 <sup>rd</sup> Period | X       |          | Al         |            |           | G          | Q          |            |

- (i) What type of bond will be formed between the elements 'X' and 'Q'?
- (ii) What is the valency of the element in group V A?
- (iii) A metal 'M' forms a compound with Oxygen and its formula is 'MO'. To which group does metal M belong?

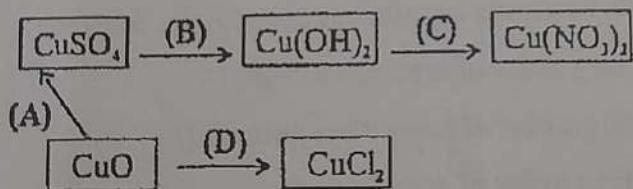
- (c) Name the following:

[3]

- (i) The hydride of halogen in period 3
- (ii) The amount of energy required to remove a loosely bound electron from the outermost shell of an isolated gaseous atom
- (iii) A compound which when dissolved in water yields hydronium ions as the only positively charged ions.

#### Question 4

- (a) Write balanced chemical equations for each of following conversions (A) to (D): [4]



- (b) With reference to the laboratory preparation of Hydrochloric acid, answer the following questions: [3]

- (i) Name the arrangement used for it.
- (ii) Why is such an arrangement necessary? Give two reasons.

- (c) Identify the Cation / Anion in each of the following: [3]

- (i) Salt A on treatment with conc. Sulphuric acid produces a gas which gives dense white fumes with Ammonia. The anion present in Salt A is \_\_\_\_\_.

- (ii) On adding Sodium hydroxide to Salt solution B, reddish brown precipitate is formed. The cation present in Salt solution B is \_\_\_\_\_.
- (iii) Salt C on reaction with dil.  $H_2SO_4$  produces a gas which turns lime water milky but has no effect on acidified  $K_2Cr_2O_7$ . The anion present in Salt C is \_\_\_\_\_.

#### Question 5

[4]

- (a) Give reasons for each of the following statements:
- Ionic compounds have high melting and boiling points.
  - Molten NaCl conducts electricity.
  - HCl gas cannot be collected over water.
  - Concentrated  $H_2SO_4$  is used in the laboratory preparation of Hydrogen chloride gas.

- (b) A compound gave the following data:

C = 57.82%, O = 38.58% and rest hydrogen. If the vapour density of compound is 83, find its molecular formula. [C = 12, O = 16, H = 1]

[3]

- (c) Show the formation of Hydronium ion and Hydroxyl ion in water with the help of electron dot diagrams. Also state the type of bonding.

[3]

#### Question 6

[4]

- (a) Arrange the following elements as per the instructions given in the brackets:
- Na, S, P, Al (decreasing order of electron affinity)
  - F, C, N, Li (increasing order of ionization potential)
  - Mg, Cl, Na, S (decreasing order of atomic size)
  - Ar, He, Kr, Ne (increasing order of number of electron shells).

- (b) The solutions A, B and C have pH values 5, 7 and 13 respectively:

[3]

- Which solution has no effect on litmus solution?
- Which solution will liberate  $CO_2$  from Sodium carbonate?
- What are universal indicators?

- (c) Define each of the following terms:

[3]

- Basic salt
- Atomic radii
- Lone pair effect.

**Question 7**

- (a) Match the items of Column A with those in Column B. [4]

|       | Column A        |     | Column B               |
|-------|-----------------|-----|------------------------|
| (i)   | Tribasic acid   | (1) | Alkali metal           |
| (ii)  | $MgCl_2 + NaOH$ | (2) | Phosphoric acid        |
| (iii) | Sodium acetate  | (3) | Normal salt            |
| (iv)  | Potassium       | (4) | Dull white precipitate |

- (b) Choose the odd one out and give a reason for the same: [3]

(i)  $MgO$ ,  $Al_2O_3$ ,  $CuO$ ,  $Fe_2O_3$

(ii)  $MgCl_2$ ,  $NaCl$ ,  $KCl$ ,  $HCl$

(iii)  $Be$ ,  $Mg$ ,  $Na$ ,  $Ca$

- (c) With reference to the properties of Hydrogen chloride gas, attempt the following questions: [3]

(i) Draw a well labelled diagram to demonstrate the high solubility of  $HCl$  gas in water.

(ii) Mention the other property this experiment is showing.

(iii) Name another gas which has the same property and can be demonstrated through this experiment.