ENGLISH LANGUAGE

ENGLISH Paper – 1

(Two hours)

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.)

Write a composition (300 - 350 words) on any one of the following: [20]

(a)   Write an **original** short story entitled '*The Secret*'.

(b)   '*A family without pets is an incomplete family*'.

Express your views either **for** or **against** this statement.

(c)   Which do you prefer – morning, afternoon, evening or night?

Describe your favourite time of the day. What are the sights, sounds, smells and feelings that you associate with your favourite time of the day? Why do you like this part of the day better than the others.

(d)   Have you ever said or done something that changed the life of another person? Give an account of your words or actions that led to this change and describe how the experience made you feel.

This Paper consists of 7 printed pages and 1 blank page.

(e) Study the picture given below. Write a story or a description or an account of what it suggests to you. Your composition may be about the subject of the picture or you may take suggestions from it; however, there must be a clear connection between the picture and your composition.
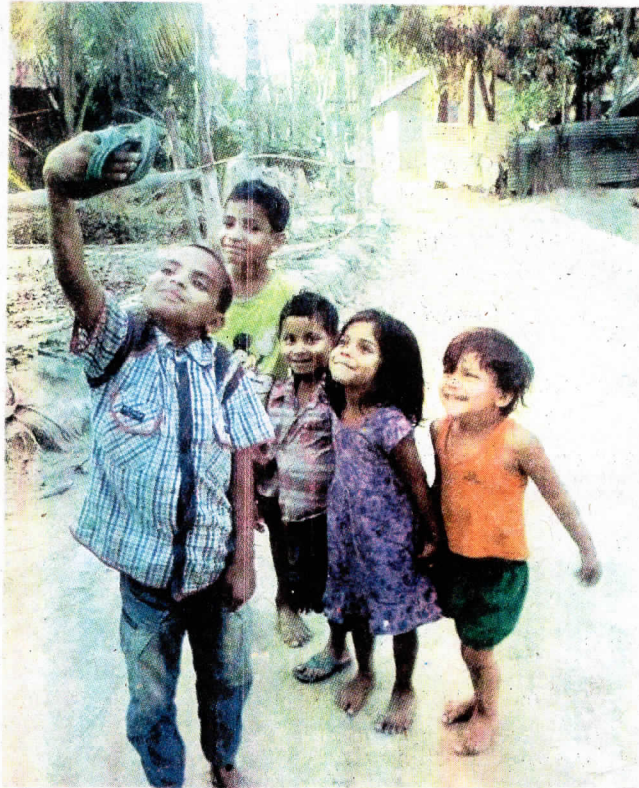
Question 2

[10]

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

Select **any one** of the following:

(a) You have changed your school recently. Write a letter to your friend in your old school telling him / her what you like about your new school but also what you miss about your old school.

(b) Some taps in your locality are left open all day resulting in a tremendous waste of water. Write a letter to the Municipal Commissioner of your town / city, complaining about the problem. Suggest ways in which this waste of water can be prevented.

Question 3

(a) Your school is organising a fete / carnival to raise funds for victims of the recent floods in your State.

    Write a notice to be put up on the school notice board giving details of the event. [5]

(b) Write an e-mail to the Principal of a neighbouring school, inviting him/ her to send their students to attend the fete / carnival. [5]

Question 4

Read the following passage carefully and answer the questions that follow:

    Attending classes inside a railway carriage seemed unusual enough, but the seating arrangements turned out to be unusual, too. At Totto-chan's previous school each pupil was *assigned* a specific desk. But here they could sit anywhere they liked at any time.

    The most unusual thing of all about this school, however, was the lessons themselves.

    Schools normally schedule one subject, for example history, during the first period, when everyone in the class just did history; then say, arithmetic in the second period, when you just did arithmetic. But here it was quite different. At the beginning of the first period, the teacher made a list of all the problems and questions in the subjects to be studied that day. Then she would say, "Now, start with any of these you like." 10

    So, whether you started on history or arithmetic or something else didn't matter at all. Someone who liked composition might be writing something, while behind you someone who liked chemistry might be boiling something in a flask over an alcohol burner.

    This method of teaching enabled the teachers to observe — as the children progressed to higher grades — what they were interested in as well as their way of thinking and their character. It was an *ideal* way for teachers to really get to know their pupils. 20

(b)   Answer the following questions briefly in your own words.

   (i)   What was unusual about the seating arrangement?   [2]

   (ii) How did the method of teaching help the teacher?   [2]

   (iii) Why did the pupils enjoy their lessons at this school?   [2]

   (iv) What different things did the first-grade pupils do?   [2]

   (v)   Which sentence in the passage tells us that the boy had difficulty in   [1]
         walking like other children?

(c)   In not more than 50 words, describe how the children were taught.   [8]

Question 5

(a)   Fill in each of the numbered blanks with the correct form of the word given in   [4]
      brackets. Do not copy the passage but write in correct serial order the word or
      phrase appropriate to the blank space.

      Example:

      (0) *taught*

      By the time she was three, Matilda had (0) _____ (teach) herself to
      read by (1) _____ (study) newspapers and magazines that
      (2) _____ (lie) around the house. At the age of four, she could
      (3) _____ (read) fast and well and she naturally began
      (4) _____ (hanker) after books. The only book in the whole of this
      enlightened household was something called Easy Cooking
      (5) _____ (belong) to her mother, and when she had read this from
      cover to cover and had (6) _____ (learn) all the recipes by heart, she
      (7) _____ (decide) she (8) _____ (want) something more
      interesting.

(b)   Fill in the blanks with appropriate words.   [4]

      (i)   It has been raining _____ two hours.

      (ii) He just scraped _____ his examination.

(iii) Mrs. Kapoor was bent _____ attending the meeting.

(iv) She is proud and looks _____ on her colleagues.

(v) Rahul plays football _____ his grandfather.

(vi) The mother was sitting _____ the sick child all night.

(vii) Monica is leaning _____ the wall.

(viii) Rosie is very good _____ art and craft.

(c) Join the following sentences to make one complete sentence **without using** [4]
and, but or *so*:

(i) Sarah and Tyra are twins. They look exactly alike.

(ii) Rohan does not like to play cricket. He does not like to play hockey either.

(iii) Sania pushed as hard as she could. The door would not open.

(iv) The school bus drove through the gate. The clock was striking eight at that moment.

(d) Re-write the following sentences according to the instructions given after [8]
each. Make other changes that may be necessary, but do not change the meaning of each sentence.

(i) The librarian orders books for the school library every year.
(Begin: Books...)

(ii) No one will deny that the children have worked very hard this year.
(Begin: Everyone...)

(iii) As soon as the teacher enters, she is greeted by her students.
(Begin: No sooner....)

(iv) She is so busy that she finds no time to entertain her friends.
(Rewrite using 'too')

(v) In spite of the very hot weather, Kevin stepped out to buy some bread.

(Begin: Despite....)

(vi) Sheela will be selected for the competition only if she goes for the auditions.

(Begin: Unless....)

(vii) I would rather eat fruit than a lot of unhealthy junk food.

(Begin: I prefer....)

(viii) The tree was cut down ruthlessly.

(Begin: They...)

LITERATURE IN ENGLISH

ENGLISH Paper – 2

(Two hours)

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.

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*Attempt **five** questions in all from only **three** text books.*

*You must attempt at least **one** question from each of the **Sections A, B** and **C** and **not more than two other questions** from the same books you have already compulsorily chosen.*

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

SECTION A – DRAMA

*Answer one or more questions from **only ONE** of the following plays:*

The Merchant of Venice

or

The Mousetrap

The Merchant of Venice: Shakespeare

Question 1.

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

Launcelot:	*But, I pray you, ergo, old man, ergo,*
	I beseech you, talk you of young Master Launcelot?
Gobbo:	*Of Launcelot, an't please your mastership.*
Launcelot:	*Ergo, Master Launcelot. Talk not of*
	Master Launcelot, father; for the young gentleman,
	according to Fates and Destines, and such odd
	sayings, the Sisters Three and such branches of leaning,

---

is indeed, deceased; or, as you would say

in plain terms, gone to heaven.

(i) What information does Gobbo seek from Launcelot at the beginning of this scene? [3]

What does Launcelot say has happened to Gobbo's son?

(ii) Who are the 'Sisters Three'? [3]

What role were they thought to play in the lives of humans?

(iii) Who was Launcelot's master? [3]

What gift had Gobbo brought him?

What does Launcelot want him to do with it?

(iv) What reasons does Launcelot give for wanting to leave his present master's service? [3]

Whom does he wish to serve instead?

(v) Why does Gobbo have trouble recognising Launcelot? [4]

What purpose does this scene serve in the context of the play?

Question 2.

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

SHYLOCK: *To bait fish withal. If it will feed nothing*

else, it will feed my revenge. He hath disgraced

me and hindered me half a million, laughed at my

losses, mocked at my gains, scorned my nation,

thwarted my bargains, cooled my friends, heated

mine enemies—and what's his reason? I am a Jew.

Hath not a Jew eyes? Hath not a Jew hands, organs,

dimensions, senses, affections, passions? Fed with the

same food, hurt with the same weapons, subject

to the same diseases, healed by the same means,

warmed and cooled by the same winter and summer

as a Christian is? If you prick us, do we not bleed?

(i) Who is 'He'? [3]

What does Shylock want from him?

What does Shylock mean by 'to bait fish withal'?

(ii) Explain in your own words any **three** ways in which 'he' had wronged [3]
Shylock.

(iii) According to Shylock, in what *other* ways did Jews resemble Christians? [3]

(iv) How does Shylock use Christian example to justify his desire for revenge? [3]

(v) The given extract reveals two distinct emotions that Shylock experiences. [4]
What are they?

Give one reason to justify each of these emotions.

Question 3.

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

Portia: *The quality of mercy is not strained;*

It droppeth as the gentle rain from heaven

Upon the place beneath: it is twice blessed;

It blesseth him that gives and him that takes:

'Tis mightiest in the mightiest; it becomes

The throned monarch better than his crown:

(i) Where does this scene take place? [3]

Why is Portia here?

Why does Bassanio not recognise her?

(ii) To what is mercy compared in these lines? [3]

Why is mercy said to be 'twice blessed'?

(iii) Explain the lines: *'Tis mightiest in the mightiest; it becomes* [3]

The throned monarch better than his crown:

(iv) Later in her speech Portia mentions a sceptre. What is a sceptre? [3]

How, according to Portia, is mercy above the 'sceptred sway'?

(v) To whom are these words addressed? [4]

What does the person say in response to Portia's words?

Portia is seen as the dramatic heroine of the play. Using references from the text mention any two aspects of her character that appeal to you most.

The Mousetrap: Agatha Christie

Question 4.

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

Giles:	*(Calling) Mollie? Mollie? Mollie? Where are you?*
	(Mollie enters from the arch Left.)
Mollie:	*(Cheerfully) Doing all the work you brute. (She crosses to Giles).*
Giles:	*Oh, there you are – leave it all to me. Shall I stoke the Aga?*
Mollie:	*Done.*

(i) Where does the opening scene of the play take place? [3]

- What song is played at the beginning of Act I?

Who is the first character to appear on the scene?

(ii) What is the 'partnership' that Mollie speaks of later in this scene? [3]

Whose idea was it?

(iii) Who is Mrs. Barlow? Why is Giles annoyed with her? [3]

(iv) Who is the first guest to arrive at Monkswell Manor? Describe this person. [3]

(v) What were this person's expectations when he arrived at the Manor? [4]

To what extent were they fulfilled?

Question 5.

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

Mrs Boyle:	*I am Mrs Boyle. (She puts down the suitcase)*
Giles:	*I'm Giles Ralston. Come in to the fire. Mrs Boyle, and get warm. (Mrs Boyle moves down to the fire.)*

Mrs Boyle:	A Major-Metcalf is it? -is carrying it?
Giles:	I'll leave the door open for him.

(i) Who is Mrs Boyle? Why is she in a bad mood? [3]

(ii) Describe Major Metcalf. Mention any one action of his which indicates that he is a polite and courteous man. [3]

(iii) How does Major Metcalf describe the weather outside? [3]

(iv) What comments does Mrs Boyle make when she first encounters Mollie? [3]

(v) Mention three reasons that Mrs Boyle gives for being unhappy with Monkswell Manor. [4]

What is your impression of Mrs Boyle?

Question 6.

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

Trotter:	It's true, isn't it, that Jimmy, the child who died, managed to get a letter posted to you? (He sits at the Right end of the sofa). The letter begged for help - help from this kind young teacher. You never answered that letter.
Mollie:	I couldn't. I never got it.
Trotter:	You just-didn't bother

(i) Explain what Mollie means by, 'I couldn't. I never got it.' [3]

(ii) What was Trotter's real name? [3]

How was he related to Jimmy?

How did he gain entry into the Manor?

(iii) What did Trotter accuse Mollie of doing? [3]

How did he intend to punish her for it?

(iv) Who had come to England in search of Trotter? [3]

How was this person related to Trotter?

What clues from their past did this person use to remind Trotter of their childhood days?

(v) Who had guessed Trotter's identity correctly? [4]

Why was this person in the Manor?

Mention two ways in which the setting of the play serves to heighten the air of mystery and suspense.

SECTION B – POETRY

*Answer **one** or **more** questions from this Section.*

A Collection of Poems

Question 7.

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

> *Bangle sellers are we who bear*
> *Our shining loads to the temple fair...*
>
> — *The Bangle Sellers*, Sarojini Naidu

(i) Why does the poet use the word 'delicate' to describe the bangles? [3]

How is 'rainbow-tinted circles of light' an appropriate description of bangles?

(ii) Explain the following phrases from the poem in your own words: [3]

- Shining loads

- Lustrous tokens of radiant lives

- For happy daughters and happy wives.

(iii) The poet uses several images of sight and sound to create a musical effect in the poem. Mention any **three** examples of these images. [3]

(iv) What are the emotions that the poet associates with a bride on her wedding day? What colours are the bangles on her wrist that reflect these emotions? [3]

(v) What colours does the poet associate with: [4]

(a) a maiden

(b) a middle aged woman?

How does the poet describe the thoughts and concerns of women in **both** these stages of life?

Question 8.

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

> *But a caged bird stands on the grave of dreams*
> *His shadow shouts on a nightmare scream*
> *His wings are clipped and his feet are tied*
> *So he opens his throat to sing.*

> — *I Know Why the Caged Bird Sings,* Maya Angelo

(i)   In the context of the poem who is a 'free bird' and who is a 'caged bird'?   [3]

     What mood do the above lines convey?

(ii)   How does a free bird live his life?   [3]

     What are the things he thinks of and dreams about?

(iii) What does the caged bird sing about?   [3]

     What are the restrictions that a caged bird has to deal with?

(iv)   What do you understand from the title of the poem?   [3]

     What do you like about the poem?

(v)   Explain what you understand by the following lines: [4]

- '...a bird that stalks

  down his narrow cage'

- 'he names the sky his own'

Question 9.

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

> *Abou Ben Adhem (may his tribe increase!)*
> *Awoke one night from a deep dream of peace,*

> — *Abou Ben Adhem,* Leigh Hunt

(i)   What did Abou Ben Adhem see when woke from a deep sleep one night?   [3]

(ii)   What did Abou Ben Adhem ask the angel?   [3]

     What was the angel's response?

(iii)   What did Abou request the angel to do when he learnt that his name did not   [3]

appear among the names of those who loved the Lord?

What does this reveal to us of Abou Ben Adhem's character?

(iv)   When and how did the angel appear to Abou Ben Adhem again?   [3]

What did the angel show Abou this time?

(v)   What does the poet mean by 'May his tribe increase!'?   [4]

Why do you think he says this?

What is the central message of the poem?

SECTION C – PROSE

*Answer one or more questions from **only ONE** of the following books that you have studied:*

A Collection of Short Stories

or

Animal Farm

or

The Call of the Wild

A Collection of Short Stories

Question 10.

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. Don't you ever recognize old friends when you meet*
> *them in the West?"*
>
> *The younger man roused himself sharply at the sound of her*
> *voice, seemed to struggle with a slight embarrassment which*
> *he threw off instantly, and then clasped her fingers with his*
> *left hand.*

"It's Miss Fairchild," he said, with a smile. "I'll ask you to excuse the other hand; "it's otherwise engaged just at present."

(i)   Describe Miss Fairchild and Mr. Easton.   [3]

(ii)   Where does the above conversation occur?   [3]

Why was Mr. Easton embarrassed when Miss Fairchild addressed him?

(iii)   How was Mr. Easton's other hand 'otherwise engaged'?   [3]

How does Miss Fairchild react when he raises his right hand to show her what he meant?

(iv)   How does Miss Fairchild feel about Mr. Easton?   [3]

How does she try to convey these feelings to him?

(v)   The story has a surprise ending. How is the surprise revealed to the reader?   [4]

Question 11.

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

So the little girl walked about the streets on her naked feet, which were red and blue with cold. In her old apron she carried a great many matches, and she had a packet of them in her hand as well.

(i)   Who was 'she'?   [3]

What can you conclude about her condition from the above description?

(ii)   What time of the year was it? Why did she not want to go home?   [3]

(iii)   What did she use the matches for? What happened when she lit the first match?   [3]

(iv)   Whom did she love dearly? What did she say when this person appeared before her?   [3]

(v)   What happened to the little girl at the end of the story?   [4]

Would you consider this a happy ending or a sad one?

Give one reason for your answer.

Question 12.

Answer the following questions with reference to Norah Burke's short story "The Blue Bead"

(i)   Describe Sibia's experience at the Bazaar. [4]
      What were the things that filled her with wonder?

(ii) Who were the Gujars? Give a brief description of their lifestyle. [4]

(iii) Describe how Sibia rescued the Gujar woman from the crocodile. [8]
      What did Sibia regard as the highlight of that fateful day?
      What does this tell us about Sibia?

Animal Farm: George Orwell

Question 13.

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

> *How they toiled and sweated to get the hay in! But their efforts were rewarded, for the harvest was an even bigger success than they had planned. Sometimes the work was hard; ...*

(i)   What hardships did the animals face when they began the harvest? [3]

(ii) How long did they take to complete the harvest? What was the result? [3]

(iii) What other hardships did they face later that year? [3]

(iv) Describe the Sunday routine on Animal Farm. [3]

(v)   What contribution did Boxer make to the farm work which earned him the admiration of his fellow creatures? [4]

Question 14.

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

> *These two disagreed on every point where disagreement was possible. If one of them suggested sowing a bigger acreage with barley, the other was certain to demand a bigger acreage of oats, and if one of them said that such and such field was just right for cabbages, the other would declare that it was useless for anything except roots.*

(i)   Who were the two who disagreed on every point?   [3]
      What special skills did each of them possess?

(ii) What was Snowball's dream project?   [3]
      How, in his opinion, would it transform life on Animal Farm?

(iii) How did Snowball work out the details of this project? [3]
      Where did he do the planning?

(iv) How did the farm animals view Snowball's effort?   [3]
      What was Napoleon's response to it?

(v)   Later on, at a Sunday meeting of the farm animals, Snowball is expelled and   [4]
      Napoleon assumes charge.
      What immediate changes does he announce regarding the running of Animal Farm.

Question 15.

With reference to George Orwell's 'The Animal Farm', answer the following questions:

(i)   What decisions were made regarding the retiring age of the animals at the   [4]
      beginning when the laws of Animal Farm were being formulated?

(ii) What 'improvements' in their lifestyle compared to the days of Jones did   [4]
      Squealer point out to the animals when a reduction in their rations was
      announced to the animals during the next winter on Animal Farm?

(iii) What stories did Moses the raven tell the farm animals?

What effect did these stories have on the animals?

What does this tell us about their living conditions?

[8

The Call of the Wild: Jack London

Question 16.

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

During the four years since his puppyhood he (Buck) had lived the life of a sated aristocrat; he had a fine pride in himself, was ever a trifle egotistical, as country gentlemen sometimes become because of their insular situation.

(i) Where did Buck spend his puppyhood? Describe the place. [3]

(ii) Who were Buck's parents? What do you know about them? [3]

(iii) What do you understand from the term, 'sated aristocrat'? [3]

In what way did Buck's life resemble that of a 'sated aristocrat'?

(iv) What did Buck do to prevent himself from becoming a pampered house-dog? [3]

(v) What historical event changed Buck's life of ease forever? [4]

Which member of the household was responsible for bringing about this change?

Why do you think this person acted in this manner?

Question 17.

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

On the other hand, possibly because he divined in Buck a dangerous rival, Spitz never lost an opportunity of showing his teeth. He even went out of his way to bully Buck, striving constantly to start the fight which could end only in the death of one or the other. (3.2)

(i) Who was Spitz? Why did he consider Buck 'a dangerous rival'? [3]

(ii)   How did the 'dominant primordial beast' which grew in Buck shape his behaviour in his new environment?   [3]

(iii)   Earlier in the trip, Buck and Spitz were engaged in a violent fight.   [3]

What led to the fight? Why did it end abruptly?

(iv)   Later in the story, Buck intervened when Spitz was about to punish Pike.   [3]
Why did he do this? How did Francois reward Buck for this?

(v)   In what ways are Buck and Spitz similar?   [4]
How are they different from each other?

Question 18.

Answer the following questions with reference to Jack London's, 'The Call of the Wild'.

(i)   Why is Buck regarded as the protagonist (the hero) of Jack London's book   [4]
'The Call of the Wild'?

(ii)   After Spitz's death Buck was made leader of the dog team. In what ways did   [4]
Buck prove to be better than Spitz in his role as leader of the team?

(iii)   Explore the themes of love and loyalty as revealed in the relationship   [8]
between Buck and Thornton in Jack London's novel, 'The Call of the Wild'.

BENGALI
(Second Language)
(*Three hours*)

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 of **two** Sections : **Section A** and **Section B**.*

*Attempt **all** the questions from Section A.*

*Attempt **four** questions from Section **B**, answering at least **one** question each from*

*the **two** books you have studied and any **two** other questions from*

the same books you have compulsorily chosen.

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

SECTION.—A (40 Marks)

*Attempt **all** questions.*

Question 1

Write a short composition in **Bengali** of approximately **250** words on any **one** of

the following topics :-   [15]

নিচের বিষয়গুলি থেকে যে কোন **একটি** বিষয় নিয়ে আনুমানিক **250** শব্দের মধ্যে একটি প্রবন্ধ

রচনা কর :-

(i)   দূষণ (Pollution) বর্তমানের একটি বড় সমস্যা

(ii)   কোন শিক্ষামূলক স্থানে গিয়ে তুমি ভ্রমণ করেছো — তোমার অভিজ্ঞতা জানাও।

(iii)   উৎসব (Festival)

(iv)   ''অহংকার মানুষের পতনের মূল কারণ''— একে নিয়ে একটি মৌলিক গল্প লেখ।

This Paper consists of 8 printed pages.

(v) নিচের ছবিটি দেখে তোমার মনের প্রতিক্রিয়া নিজের ভাষায় ব্যক্ত কর :-
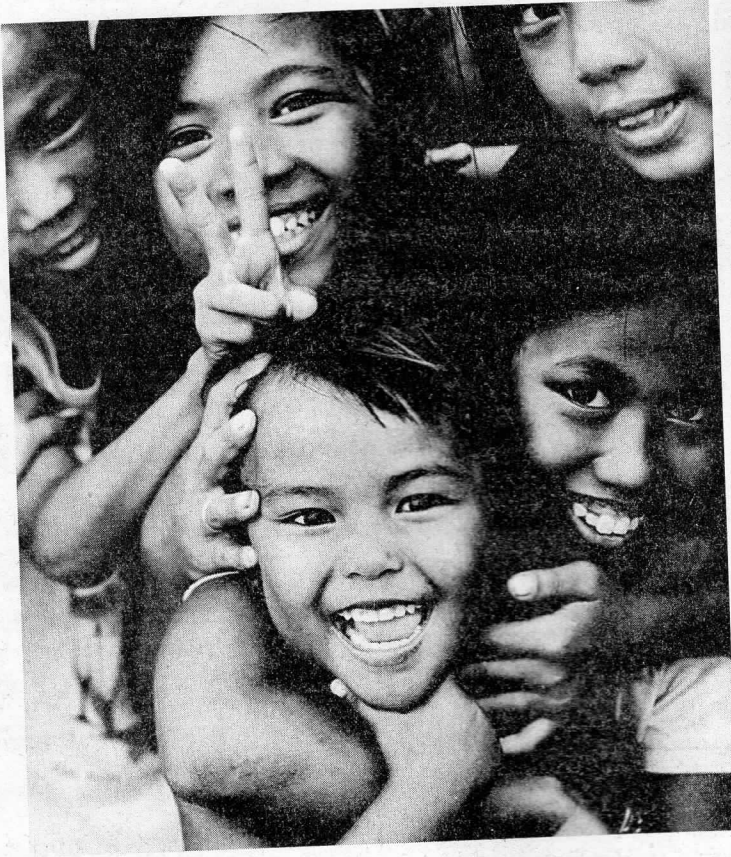
Question 2

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

[7]

নিম্নলিখিত বিষয় দুটির মধ্যে যে কোন **একটি** বিষয় নিয়ে আনুমানিক **120** শব্দের মধ্যে একটি পত্র লেখ:-

(i) তোমাদের এলাকায় একটি যোগব্যায়াম ও শারীরিকশিক্ষা কেন্দ্রের অতি আবশ্যকতা জানিয়ে স্থানীয় পুরপ্রধানকে পত্র লেখ।

(ii) তোমার বিদ্যালয়ের পড়াশোনার বাইরে আর কি কি বিষয়ে শিক্ষা দেওয়া হয় এবং তুমি কি কি ক্ষেত্রে যুক্ত আছো সে বিষয়ে তোমার কোন প্রবাসী আত্মীয়কে চিঠি লেখ।

Question 3

Read the passage given below and answer in **Bengali** the questions that follow using your own words as far as possible:-

নিচের অংশটি ভাল করে পড়ে প্রদত্ত প্রশ্নগুলির ঠিকমত উত্তর নিজের ভাষায় লেখ :-

অজন্তা গুহার দেওয়াল চিত্রগুলির সামান্যই আজ বর্তমান। গুহাগুলি অবশ্যই আছে। কিন্তু যে ফ্রেস্কো বা দেয়াল চিত্রগুলির জন্য অজন্তার বিশ্ব জোড়া খ্যাতি, সেগুলি আজ আক্ষরিক অর্থেই দুর্দশাগ্রস্ত। ধ্বংসের মুখে। সর্বনাশটি ঘটেছে মাত্র গত দুশো বছরে। ১৮১৭ খৃঃ গুহাগুলি একদল ইংরেজ সৈনিকের নজরে পড়ার পরে। অথচ তার আগে যে গুহাগুলি সম্পূর্ণ লোকচক্ষুর আড়ালে ছিল এমন নয়। অজন্তার মাত্র কয়েকমাইল দূরে ফর্দাপুর গ্রাম। গ্রামের সবাই জানত গুহাগুলির দেয়ালে চোখ জুড়োনো চিত্রগুলির কথা। প্রচলিত ছিল চমৎকার এক গল্পও। অনেক কাল আগেকার কথা। স্বর্গের দেবদেবিরা দেবরাজ ইন্দ্রের কাছে প্রার্থনা জানালেন যে একদিন তারা সবাই মিলে মর্তে বেড়াতে যাবেন। ইন্দ্র তাদের প্রার্থনা মঞ্জুর করে বললেন কিন্তু মনে রেখো রাত ভোর হবার আগেই ফিরে আসতে হবে। সম্মত হয়ে স্বর্গের গন্ধর্ব, কিন্নর অপ্সরা দল বেঁধে হাওয়ায় ভেসে চলতে চলতে নেমে এলেন মর্তের এই অজন্তা গুহায়। স্থানটি তাদের খুব পছন্দ হল। বাগোড়া নদীর কাকচক্ষু জলে স্নান করে আনন্দে মেতে উঠল সবাই।

ইতি মধ্যে কখন যে রাত কেটে অন্ধকার ফিকে হতে শুরু করেছে, গুহার ভেতর কেউ বিন্দুমাত্র টের পায়নি। শেষে এক সময় ডেকে উঠল ভোরের পাখি। ভয়ানক চমকে উঠল সবাই। কিন্তু ততক্ষণে স্বর্গের দরজা বন্ধ। অগত্যা যে যেখানে ছিলেন সেভাবেই বন্দী হয়ে গেলেন গুহার দেওয়ালে। কেউ ছবি কেউ পাথর।

হয়তো প্রচলিত এই গল্পের কারণেই গুহার দেয়াল চিত্রগুলির সামান্যতম ক্ষতি স্থানীয় মানুষেরা কখনো করেননি। সেটা শুরু হল তথাকথিত শিক্ষিত সম্প্রদায়ের আনাগোনা শুরু হতে। যতদিন গুহাগুলি আরক্ষিত ছিল ততদিন তো হয়েছেই। তারপর যথোপযুক্ত সংরক্ষণের ব্যবস্থা হবার পরেও সেই অবস্থার বিশেষ উন্নতি হয়েছে এমন নয়। বরং সুরক্ষার নামে বেশ কিছু ছবির সর্বনাশ ঘটানো হয়েছে।

অজন্তার মূল আকর্ষণ ফ্রেস্কোগুলি আজ তাই দর্শকের কাছে ধরা ছোঁয়ার বাইরে বলা যায়। অথচ অজন্তার এই বিশ্বজোড়া খ্যাতি এই ফ্রেস্কোগুলির জন্যই। প্রাচীন ভারতের চিত্রকলার এতবড় ভাণ্ডার আর কোথাও নেই। এই চিত্রগুলির টানেই দেশ বিদেশ থেকে ছুটে এসেছেন শিল্পকলা রসিকবৃন্দ। দিনের পর দিন পড়ে থেকে তারা এই ছবিগুলির অনুলিপি করেছেন। ফিরে গিয়ে বইও লিখেছেন অনেকে। বাংলার দুই বিখ্যাত চিত্রশিল্পী মুকুল দে ও অসিত হালদার তাদের মধ্যে অন্যতম।

প্রশ্ন :-

(i)	অজন্তা গুহার খ্যাতি কিসের জন্য ?	[2]
(ii)	সেই গুহাগুলি আজ দুর্দশাগ্রস্ত কেন ?	[2]
(iii)	প্রচলিত গল্পটি কি ছিল ?	[2]
(iv)	এই গুহার টানে কারা এসেছেন ? তারা কি করেছেন ?	[2]
(v)	বাংলা থেকে কারা সেখানে গিয়েছিলেন ?	[2]

Question 4

Answer the following questions according to the instructions given :-

নিম্নলিখিত প্রশ্নগুলির উত্তর নির্দেশানুসারে দাও :-

(i) যদি মন দিয়ে পড়াশোনা কর তাহলেই পরীক্ষায় ভাল ফল করবে। [1]

(সরলবাক্যে পরিবর্তন কর)

(ii) আকস্মিক দুঃসংবাদ পাইয়া রামবাবু প্রস্তরের ন্যায় দাঁড়াইয়া রহিলেন। (চলিত ভাষায় লেখ) [1]

(iii) ঠিক বানানটি লেখ : [1]

পুরস্কার/পুরস্কার, ভৌগলিক/ভৌগোলিক

(iv) 'হন্‌হন্‌' অথবা 'খস্‌খস্‌' — যে কোন একটি ধ্বন্যাত্মক শব্দ দিয়ে বাক্য রচনা কর। [1]

(v) সারাটা বছর তাকে কৃষিকাজের উপর নির্ভর করে থাকতে হয়। (কর্তৃবাচ্যে বদল কর) [1]

(vi) 'পাকা' শব্দটি 'নিপুণ' অর্থে ব্যবহার করে বাক্যরচনা কর। [1]

(vii) শিশুটি বলল, "ঠাম্মা, আজ তোমার পাশে শুয়ে গল্প শুনব" (উক্তি পরিবর্তন কর) [1]

(viii) মেষশাবক বলল তা কী করে সম্ভব আপনি জল পান করছেন ওপরে আমি নীচে জল পান করছি ওপরের জল ঘোলা হবে কী করে (ছেদ-যতি চিহ্ন দাও) [1]

SECTION — B (40 Marks)

*Questions from only **two** of the following textbooks are to be answered.*

*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 from the same books that you have chosen.*

(যে কোন **চারটি** প্রশ্নের উত্তর লেখ)

তোমার পঠিত **দুটি** বই থেকে একটি করে উত্তর অবশ্যই লিখবে। বাকি যে কোন **দুটির** উত্তর লেখ।

সংকলিতা — ছোট গল্প
SONKOLITA — SHORT STORIES

Question 5

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

''কয়েকমাস বাদে যখন ফিরলাম তখন অশ্বত্থতলার মোড়কে আর চেনাই যায় না।'

দেবতার জন্ম — শিবরাম চক্রবর্তী

Debotar Jonmo — Shibram Chakraborty

(i) বক্তা কে ? কয়েকমাস বাদে তিনি কোথা থেকে ফিরলেন ? [2]

(ii) অশ্বথতলার মোড়কে আর চেনাই যায় না কেন ? [2]

(iii) সেখানে কার কোন্ পরিবর্তন দেখে বক্তা সবচেয়ে বিস্মিত হয়েছিলেন ? [3]

(iv) যে জিনিসটিকে কেন্দ্র করে এই পরিবর্তন, সেই জিনিসটির উদ্ভব হয়েছিল কিভাবে ? [3]

Question 6

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

''বালকদের পীড়ন করিবার জন্য আমাদের শিবনাথ পণ্ডিতের একটি অস্ত্র ছিল, সেটি শুনিতে যৎসামান্য কিন্তু প্রকৃতপক্ষে অত্যন্ত নিদারুণ।''

<div align="right">

গিন্নি — রবীন্দ্রনাথ ঠাকুর

Ginni — Rabindranath Tagore

</div>

(i) শিবনাথ পণ্ডিত কে ? [2]

(ii) তাঁর অস্ত্রটি কী ? [2]

(iii) সেটি প্রকৃতপক্ষে নিদারুণ কেন ? [3]

(iv) এখানে কার ওপর অস্ত্রটি প্রয়োগ করা হয়েছিল এবং তাতে সেই বালকের কি অবস্থা হয়েছিল ? [3]

Question 7

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

''আজহার সাহেব কালো বাক্সটা ফেরত দিয়ে বললেন, 'আপনাকে ধন্যবাদ। এই জিনিসটার কারণে এখন মানুষ হিসেবে জন্মগ্রহণ করার একটা অর্থ খুঁজে পাচ্ছি।''

<div align="right">

লোকটি — হুমায়ুন আহমেদ

Lokti — Humayun Ahmed

</div>

(i) আজহার সাহেবের পরিচয় দাও। [2]

(ii) তিনি কাকে কালো বাক্সটি ফেরত দিলেন এবং সেই বাক্সে কি ছিল ? [2]

(iii) বাক্সের জিনিসটির সম্পর্কে কি জানা গিয়েছিল ? [3]

(iv) কিভাবে তিনি মানুষ হিসাবে জন্মগ্রহণ করার অর্থ খুঁজে পান ? [3]

সংকলিতা — কবিতা
SONKOLITA — POEMS

Question 8

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

"সেই ধন্য নরকুলে

লোকে যারে নাহি ভুলে

মনের মন্দিরে সদা সেবে সর্বজন।"

বঙ্গভূমির প্রতি — মাইকেল মধুসূদন দত্ত

Bangobhumir Proti — Michel Madhusudan Dutta

(i) কবির কাব্যচর্চার উদ্দেশ্য কী ছিল ? তিনি কখন এই কবিতাটি লেখেন। [2]

(ii) কবি কার কাছে মিনতি করছেন ? [2]

(iii) কবি এই পৃথিবীতে কাদের ধন্য মনে করেন ? [3]

(iv) কবি কি রকম অমরতা লাভ করতে চান ? [3]

Question 9

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

"আ মরণ ! পোড়ার মুখ লক্ষ্মীছাড়া প্রজাপতি !'

ফুল ফুটুক না ফুটুক — সুভাষ মুখোপাধ্যায়

Ful Futuk Na Futuk — Subhas Mukhopadhyay

(i) উক্তিটি কে করেছে ? [2]

(ii) সে এইভাবে উক্তিটি করেছে কেন ? [2]

(iii) প্রজাপতিকে লক্ষ্মীছাড়া বলবার কারণ কি ? প্রজাপতির সাথে বসন্তঋতুর কোন্ যোগ আছে বলে তোমার মনে হয় ? [3]

(iv) এই লাইনটির মধ্যে দিয়ে বক্তার মনের কোন্ দিকটি ব্যক্ত হয়েছে ? [3]

Question 10

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

" ভাতের গন্ধে লাফিয়ে ওঠে খিদের নাড়ি ভুঁড়ি

বালিকা তবু উজান ভরা স্বপ্ন করে চুরি।"

খো খো — অমিতাভ দাশগুপ্ত

Kho Kho —Amitabha Dasgupta

(i) এই কবিতায় কোন্ খেলার কথা বলা হয়েছে ? খেলাটি কোন্ দেশের খেলা ? [2]

(ii) বালিকাটি কে ? তার স্বপ্ন কি ? [2]

(iii) বালিকার পরিবারের লোকেরা কে কি কাজ করে ? [3]

(iv) ভাতের গন্ধে তাদের, কেন নাড়ি ভুঁড়ি লাফিয়ে ওঠে ? [3]

চাঁদের পাহাড়

বিভূতিভূষণ বন্দ্যোপাধ্যায়

Chander Pahar — Bibhuti Bhushan Bandyopadhyay

Question 11

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

‘‘বাবা শঙ্কর, আমার জামাই এর খোঁজ পাওয়া গেছে অনেকদিন পরে।’’

(i)   কথাগুলি কে বলছে ? তার জামাই-এর নাম কি ?   [2]

(ii)   জামাই এতদিন কোথায় ছিলেন ? কতদিন পরে তার খোঁজ পাওয়া যায় ?   [2]

(iii) শঙ্কর কে ? তার সংক্ষিপ্ত পরিচয় দাও।   [3]

(iv) এই জামাই সম্পর্কে শঙ্কর কি কি জানে ?   [3]

Question 12

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

‘‘আলভারেজ বললে — এই যে দেখচ রোডেসিয়ার ভেল্ড অঞ্চল, এখানে হীরে ছড়ানো আছে।’’

(i)   আলভারেজ কাকে এই কথা বলছে ? ‘ভেল্ড’ অঞ্চলে লোক পথ হারায় কেন ?   [2]

(ii)   এ অঞ্চলে যে গাছটি অনেক দেখতে পাওয়া যায় তার বর্ণনা দাও।   [2]

(iii) এখানকার অধিবাসী মাটাবেল জাতির লোকেদের চেহারা ও স্বভাব সম্পর্কে লেখ।   [3]

(iv) এরা কেন আলভারেজের কাছে আসে ? তাদের সাথে আলভারেজ কেমন ব্যবহার করে ? [3]

Question 13

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

‘‘তারা সবাই চুপচাপ বসে, মুনিজনোচিত গাম্ভীর্যে ভরা’’—

(i)   ‘তারা’ বলতে কাদের কথা বলা হয়েছে ?   [2]

(ii)   তাদের সম্পর্কে লেখক কেমন বর্ণনা দিয়েছেন ?   [2]

(iii) তাদের যে পরিবেশ দেখা গিয়েছিল সেই স্থানটির বর্ণনা দাও।   [3]

(iv) তাদের কারা দেখেছিল ? ঐ স্থানে তারা আর কোন্ কোন্ শব্দ শুনতে পেয়েছিল ?   [3]

জাম্বো — মোহিত চট্টোপাধ্যায়
Jambo — Mohit Chattopadhyay

Question 14

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

"সবথেকেও আমি ডাহা ফেল করে গেছি ভাই। আমার ডাক নাম ফেলু। ওই নামটিই যথার্থ।"

   (i)   বক্তা কে ?   [2]

   (ii)   বক্তা কাদের এই কথাগুলি বলছেন ?   [2]

   (iii) বক্তা নিজেকে ডাহা ফেল বলছেন কেন ?   [3]

   (iv) তাঁর ডাকনাম যথার্থ বলার কারণ কি ?   [3]

Question 15

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

নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

"নিশি। হ্যালো, হ্যাঁ বল — সেকী ! গাড়ির চাকায় হাওয়া নেই।"

   (i)   নিশি কার সাথে কথা বলছে ? গাড়িটি কোথায় রাখা ছিল ?   [2]

   (ii)   কোন্ কাজে ব্যবহারের জন্য গাড়িটি রাখা হয়েছিল ?   [2]

   (iii) চাকায় হাওয়া কেমন ভাবে বেরিয়ে যায় ? নিশির অপর সঙ্গীর নাম কি ?   [3]

   (iv) নিশি ও তার বন্ধুর পরিকল্পনাটি সম্পর্কে লেখ।   [3]

Question 16

Read the extract given below and answer in **Bengali** the questions that follow:-
নিচের অংশটি পড়ে প্রশ্নগুলির উত্তর লেখ :-

"আপনাদের অপকর্মেরও একটা শিক্ষা হওয়া দরকার।"

   (i)   কে কাদের এই কথাগুলো বলছেন ?   [2]

   (ii)   কোন্ প্রসঙ্গে এই কথা বলা হয়েছে ?   [2]

   (iii) তাদের অপকর্মের পরিচয় দাও।   [3]

   (iv) বক্তা তাদের কী শিক্ষা দিয়েছিলেন ?   [3]

MATHEMATICS

(Two hours and a half)

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.

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*Attempt **all** questions from **Section A** and **any four** questions from **Section B**.*

All working, including rough work, must be clearly 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 are provided.

SECTION A (40 Marks)

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

Question 1

(a) Solve the following Quadratic Equation: [3]

$x^2 - 7x + 3 = 0$

Give your answer correct to two decimal places.

(b) Given $A = \begin{bmatrix} x & 3 \\ y & 3 \end{bmatrix}$ [3]

If $A^2 = 3I$, where I is the identity matrix of order 2, find x and y.

(c) Using ruler and compass construct a triangle ABC where AB = 3 cm, BC = 4 cm and [4]
∠ABC = 90°. Hence construct a circle circumscribing the triangle ABC. Measure and
write down the radius of the circle.

This paper consists of 7 printed pages and 1 blank page.

Question 2

(a)   Use factor theorem to factorise $6x^3 + 17x^2 + 4x - 12$ completely.   [3]

(b)   Solve the following inequation and represent the solution set on the number line.   [3]

$$\frac{3x}{5} + 2 < x + 4 \le \frac{x}{2} + 5, \quad x \in R$$

(c)   Draw a Histogram for the given data, using a graph paper: [4]

Weekly Wages (in ₹)	No. of People
3000 – 4000	4
4000 – 5000	9
5000 – 6000	18
6000 – 7000	6
7000 – 8000	7
8000 – 9000	2
9000 – 10000	4

Estimate the mode from the graph.

Question 3

(a)   In the figure given below, O is the centre of the circle and AB is a diameter.   [3]

If AC = BD and ∠AOC = 72°. Find:

(i) ∠ABC

(ii) ∠BAD

(iii) ∠ABD
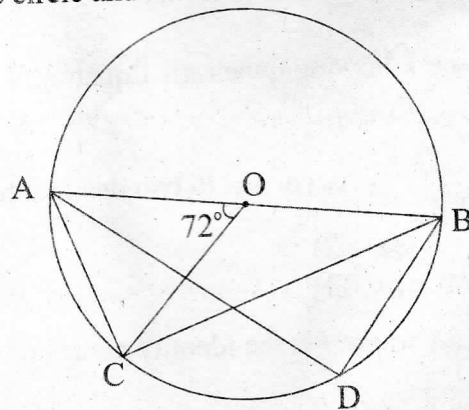
(b)   Prove that: [3]

$$\frac{\sin A}{1 + \cot A} - \frac{\cos A}{1 + \tan A} = \sin A - \cos A$$

(c)   In what ratio is the line joining P(5, 3) and Q(–5, 3) divided by the y-axis? Also find the coordinates of the point of intersection.   [4]

Question 4

(a) A solid spherical ball of radius 6 cm is melted and recast into 64 identical spherical marbles. Find the radius of each marble. [3]

(b) Each of the letters of the word 'AUTHORIZES' is written on identical circular discs and put in a bag. They are well shuffled. If a disc is drawn at random from the bag, what is the probability that the letter is: [3]

(i) a vowel

(ii) one of the first 9 letters of the English alphabet which appears in the given word

(iii) one of the last 9 letters of the English alphabet which appears in the given word?

(c) Mr. Bedi visits the market and buys the following articles: [4]

Medicines costing ₹ 950, GST @ 5%

A pair of shoes costing ₹ 3000, GST @ 18%

A Laptop bag costing ₹ 1000 with a discount of 30%, GST @ 18%.

(i) Calculate the total amount of GST paid.

(ii) The total bill amount including GST paid by Mr. Bedi.

SECTION B (40 Marks)

*Attempt any **four** questions from this Section*

Question 5

(a) A company with 500 shares of nominal value ₹ 120 declares an annual dividend of 15%. Calculate: [3]

(i) the toal amount of dividend paid by the company.

(ii) annual income of Mr. Sharma who holds 80 shares of the company.

If the return percent of Mr. Sharma from his shares is 10%, find the market value of each share.

(b)   The mean of the following data is 16. Calculate the value of f.   [3]

Marks	5	10	15	20	25
No. of Students	3	7	f	9	6

(c)   The 4th, 6th and the last term of a geometric progression are 10, 40 and 640   [4]
respectively. If the common ratio is positive, find the first term, common ratio and
the number of terms of the series.

Question 6

(a)   If $A = \begin{bmatrix} 3 & 0 \\ 5 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} -4 & 2 \\ 1 & 0 \end{bmatrix}$ [3]

Find $A^2 - 2AB + B^2$

(b)   In the given figure AB = 9 cm, PA = 7.5 cm and PC = 5 cm.   [3]
Chords AD and BC intersect at P.
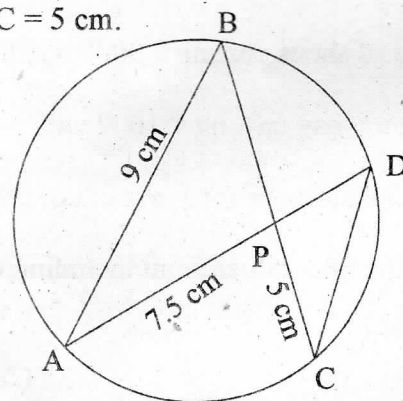
(i)   Prove that $\Delta PAB \sim \Delta PCD$

(ii) Find the length of CD.

(iii) Find area of ΔPAB : area of ΔPCD

(c)   From the top of a cliff, the angle of depression of the top and bottom of a tower are   [4]
observed to be 45° and 60° respectively. If the height of the tower is 20 m.
Find:

(i)   the height of the cliff

(ii) the distance between the cliff and the tower.

Question 7

(a)   Find the value of 'p' if the lines, $5x - 3y + 2 = 0$ and $6x - py + 7 = 0$ are   [3]
perpendicular to each other. Hence find the equation of a line passing through
$(-2, -1)$ and parallel to $6x - py + 7 = 0$.

(b)   Using properties of proportion find $x : y$, given: [3]

$$\frac{x^2 + 2x}{2x + 4} = \frac{y^2 + 3y}{3y + 9}$$

(c)   In the given figure TP and TQ are two tangents to the circle with centre O, touching   [4]
at A and C respectively. If $\angle BCQ = 55°$ and $\angle BAP = 60°$, find:

    (i) $\angle OBA$ and $\angle OBC$

    (ii) $\angle AOC$

    (iii) $\angle ATC$
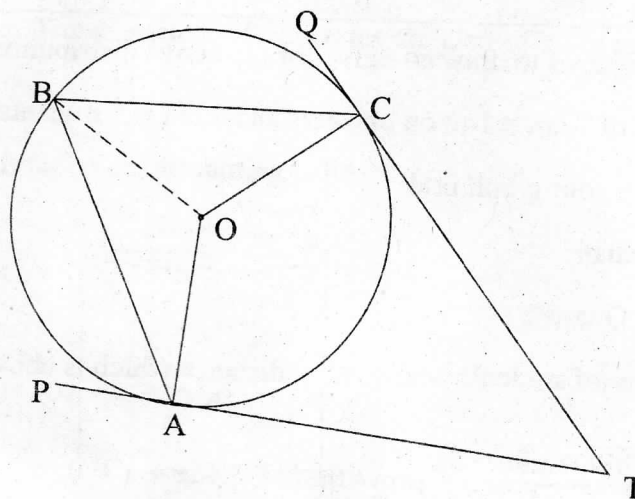
Question 8

(a)   What must be added to the polynomial $2x^3 - 3x^2 - 8x$, so that it leaves a   [3]
remainder 10 when divided by $2x + 1$?

(b)   Mr.Sonu has a recurring deposit account and deposits ₹ 750 per month for 2 years.   [3]
If he gets ₹ 19125 at the time of maturity, find the rate of interest.

(c)   Use graph paper for this question.   [4]

    Take 1 cm = 1 unit on both x and y axes.

    (i)   Plot the following points on your graph sheets:

        A(–4, 0), B(–3, 2), C(0, 4), D(4, 1) and E(7, 3)

    (ii) Reflect the points B, C, D and E on the x-axis and name them as B', C', D' and
        E' respectively.

    (iii) Join the points A, B, C, D, E, E', D', C', B' and A in order.

    (iv) Name the closed figure formed.

Question 9

(a)   40 students enter for a game of shot-put competition. The distance thrown (in   [6]
metres) is recorded below:

Distance in m	12 – 13	13 – 14	14 – 15	15 – 16	16 – 17	17 – 18	18 – 19
Number of Students	3	9	12	9	4	2	1

Use a graph paper to draw an ogive for the above distribution.

Use a scale of 2 cm = 1 m on one axis and 2 cm = 5 students on the other axis.

Hence using your graph find:

(i)   the median

(ii) Upper Quartile

(iii) Number of students who cover a distance which is above $16\frac{1}{2}$ m.

(b)   If $x = \dfrac{\sqrt{2a+1} + \sqrt{2a-1}}{\sqrt{2a+1} - \sqrt{2a-1}}$, prove that $x^2 - 4ax + 1 = 0$ [4]

Question 10

(a)   If the 6th term of an A.P. is equal to four times its first term and the sum of first six   [3]
terms is 75, find the first term and the common difference.

(b)   The difference of two natural numbers is 7 and their product is 450.   [3]
Find the numbers.

(c)   Use ruler and compass for this question. Construct a circle of radius 4.5 cm.   [4]
Draw a chord. AB = 6 cm.

(i)   Find the locus of points equidistant from A and B.
Mark the point where it meets the circle as D.

(ii) Join AD and find the locus of points which are equidistant from AD and AB.
Mark the point where it meets the circle as C.

(iii) Join BC and CD. Measure and write down the length of side CD of the
quadrilateral ABCD.

Question 11

(a)   A model of a high rise building is made to a scale of 1 : 50.   [3]

   (i) If the height of the model is 0.8 m, find the height of the actual building.

   (ii) If the floor area of a flat in the building is 20 m², find the floor area of that in the model.

(b)   From a solid wooden cylinder of height 28 cm and diameter 6 cm, two conical   [3]
       cavities are hollowed out. The diameters of the cones are also of 6 cm and height
       10.5 cm.

   Taking $\pi = \frac{22}{7}$ find the volume of the remaining solid.
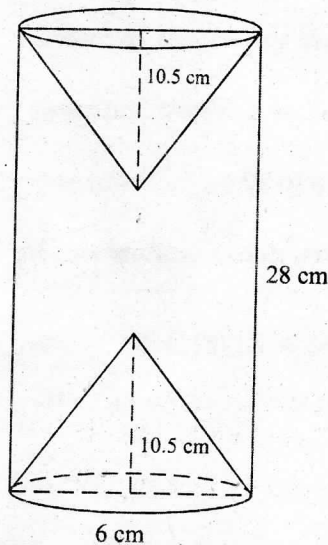
(c)   Prove the identity   [4]

   $$\left(\frac{1 - \tan\theta}{1 - \cot\theta}\right)^2 = \tan^2\theta$$

PHYSICS

SCIENCE Paper – 1

(Two hours)

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.

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*Section I is compulsory. Attempt **any four** questions from Section II.*

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

SECTION I (40 Marks)

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

Question 1

(a) (i) Define moment of force. [2]

    (ii) Write the relationship between the SI and CGS unit of moment of force.

(b) Define a kilowatt hour. How is it related to joule? [2]

(c) A satellite revolves around a planet in a circular orbit. What is the work done [2]
by the satellite **at any instant**? Give a reason.

(d) (i) Identify the class of the lever shown in the diagram below: [2]
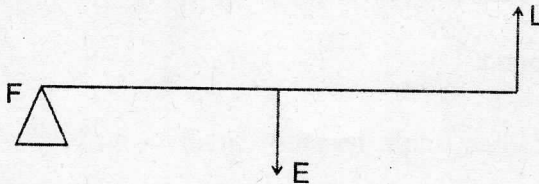
    (ii) How is it possible to increase the M.A. of the above lever without increasing
its length?

(e) Give one example of each when: [2]

    (i) Chemical energy changes into electrical energy.

    (ii) Electrical energy changes into sound energy.

This Paper consists of 8 printed pages.

Question 2

(a) A crane 'A' lifts a heavy load in 5 seconds, whereas another crane 'B' does the same work in 2 seconds. Compare the power of crane 'A' to that of crane 'B'. [2]

(b) A ray of light falls normally on a rectangular glass slab. [2]
Draw a ray diagram showing the path of the ray till it emerges out of the slab.

(c) Complete the path of the monochromatic light ray AB incident on the surface PQ of the equilateral glass prism PQR till it emerges out of the prism due to refraction. [2]
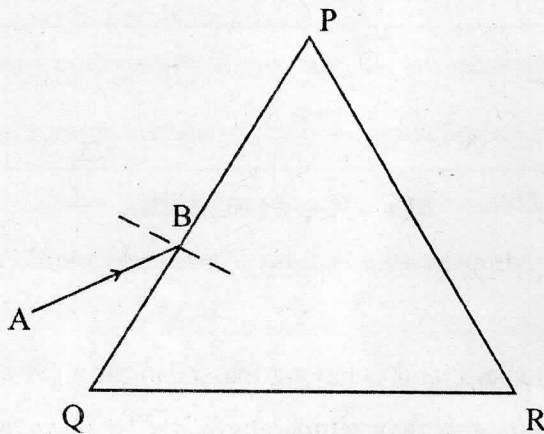
(d) Where should an object be placed in front of a convex lens in order to get: [2]

(i) an enlarged real image

(ii) enlarged virtual image?

(e) A pond appears to be 2.7 m deep. If the refractive index of water is $\frac{4}{3}$, find the actual depth of the pond. [2]

Question 3

(a) The wave lengths for the light of red and blue colours are nearly 7.8×10^{-7} m and 4.8×10^{-7} m respectively. [2]

(i) Which colour has the greater speed in a vacuum?

(ii) Which colour has a greater speed in glass?

(b) Draw a graph between displacement from mean position and time for a body executing free vibration in a vacuum.   [2]

(c) A sound wave travelling in water has wavelength 0.4 m.
Is this wave audible in air? (The speed of sound in water = 1400 ms⁻¹)   [2]

(d) Why does stone lying in the sun get heated up much more than water lying for the same duration of time?   [2]

(e) Why is it not advisable to use a piece of copper wire as fuse wire in an electric circuit?   [2]

Question 4

(a) Calculate the total resistance across AB: [2]
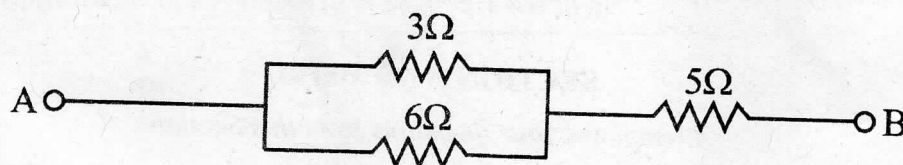
(b) Two metallic blocks P and Q having masses in ratio 2:1 are supplied with the same amount of heat. If their temperatures rise by same degree, compare their specific heat capacities.   [2]

(c) When a current carrying conductor is placed in a magnetic field, it experiences a mechanical force. What should be the angle between the magnetic field and the length of the conductor so that the force experienced is: [2]

   (i) Zero

   (ii) Maximum?

(d) A nucleus $_{84}X^{202}$ of an element emits an alpha particle followed by a beta particle. The final nucleus is $_aY^b$. Find a and b.   [2]

(e) The diagram below shows a loop of wire carrying current I: [2]
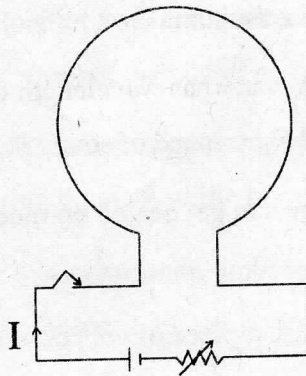
(i) What is the magnetic polarity of the loop that faces us?

(ii) With respect to the diagram how can we increase the strength of the magnetic field produced by this loop?

SECTION II (40 Marks)

Attempt any four questions from this Section

Question 5

(a) The figure below shows a simple pendulum of mass 200 g. It is displaced from   [3]
the mean position A to the extreme position B. The potential energy at the
position A is zero. At the position B the pendulum bob is raised by 5 m.
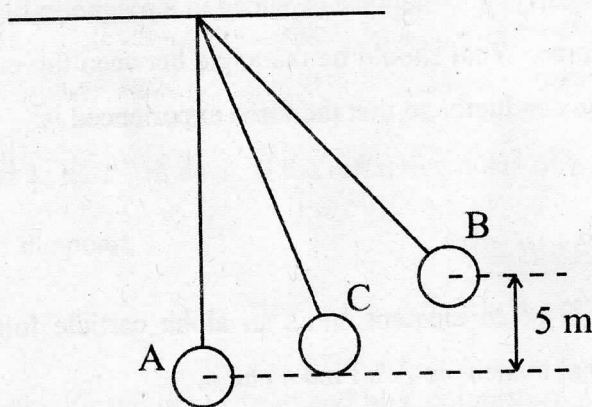
(i) What is the potential energy of the pendulum at the position B?

(ii) What is the total mechanical energy at point C?

(iii) What is the speed of the bob at the position A when released from B?
(Take g = 10 ms⁻² and there is no loss of energy.)

(b) (i) With reference to the direction of action, how does a centripetal force differ [3]
from a centrifugal force during uniform circular motion?

(ii) Is centrifugal force the force of reaction of centripetal force?

(iii) Compare the magnitudes of centripetal and centrifugal force.

(c) A block and tackle system of pulleys has velocity ratio 4. [4]

(i) Draw a neat labelled diagram of the system indicating clearly the points of
application and direction of load and effort.

(ii) What will be its V.R. if the weight of the movable block is doubled?
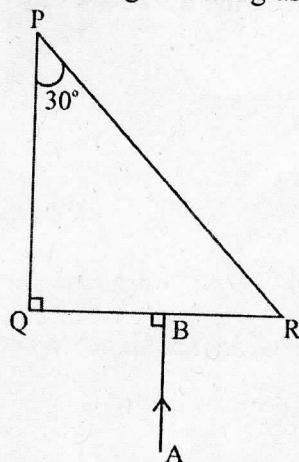
Question 6

(a) A diver in water looks obliquely at an object AB in air. [3]
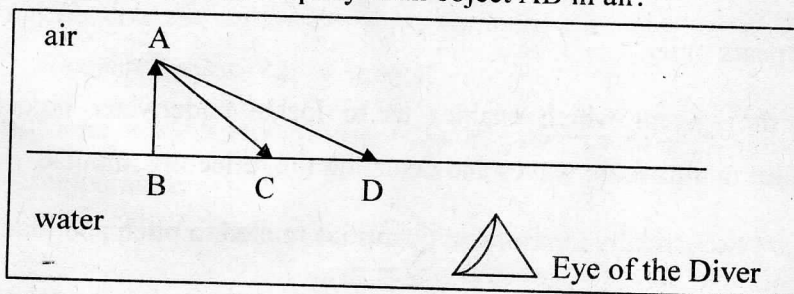
(i) Does the object appear taller, shorter or of the same size to the diver?

(ii) Show the path of two rays AC & AD starting from the tip of the object as it
travels towards the diver in water and hence obtain the image of the object.

(b) Complete the path of the ray AB through the glass prism in PQR till it emerges [3]
out of the prism. Given the critical angle of the glass as 42°.

(c) A lens of focal length 20 cm forms an inverted image at a distance 60 cm from the lens. [4]

    (i) Identify the lens.

    (ii) How far is the lens present in front of the object?

    (iii) Calculate the magnification of the image.

Question 7

(a) Give reasons for the following: [3]

    During the day:

    (i) Clouds appear white.

    (ii) Sky appears blue.

(b) (i) Name the system which enables us to locate underwater objects by transmitting ultrasonic waves and detecting the reflecting impulse. [3]

    (ii) What are acoustically measurable quantities related to pitch and loudness?

(c) (i) When a tuning fork [vibrating] is held close to ear, one hears a faint hum. The same [vibrating tuning fork] is held such that its stem is in contact with the table surface, then one hears a loud sound. Explain. [4]

    (ii) A man standing in front of a vertical cliff fires a gun. He hears the echo after 3.5 seconds. On moving closer to the cliff by 84 m, he hears the echo after 3 seconds. Calculate the distance of the cliff from the initial position of the man.

Question 8

(a) The diagram below shows the core of a transformer and its input and output connections [3]
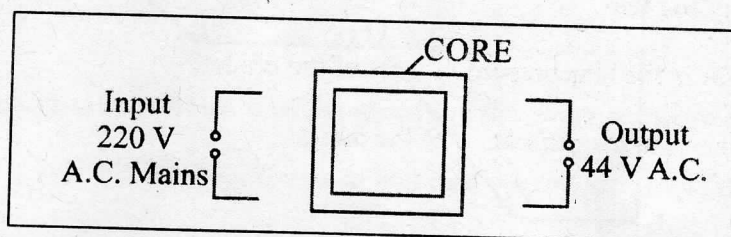
(i) State the material used for the core.

(ii) Copy and complete the diagram of the transformer by drawing input and output coils.

(b) (i) What are superconductors? [3]

(ii) Calculate the current drawn by an appliance rated 110 W, 220 V when connected across 220 V supply.

(iii) Name a substance whose resistance decreases with the increase in temperature.

(c)

[4]
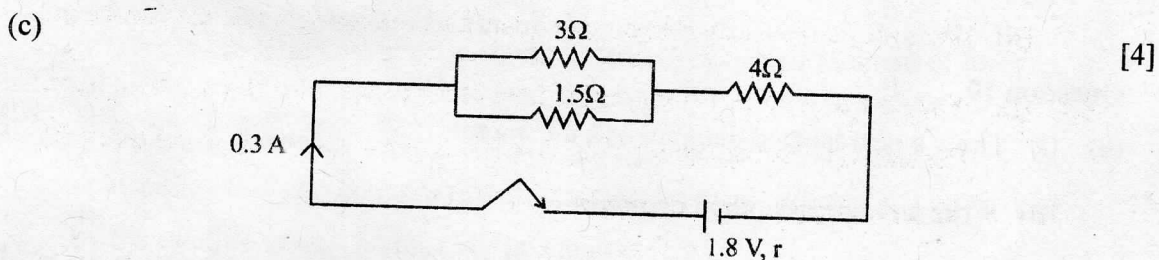
The diagram above shows three resistors connected across a cell of e.m.f. 1.8 V and internal resistance r. Calculate:

(i) Current through 3 Ω resistor.

(ii) The internal resistance r.

Question 9

(a) (i) Define heat capacity of a substance. [3]

(ii) Write the SI unit of heat capacity.

(iii) What is the relationship between heat capacity and specific heat capacity of a substance?

(b) The diagram below shows the change of phases of a substance on a temperature **[3]** vs time graph on heating the substance at a constant rate.
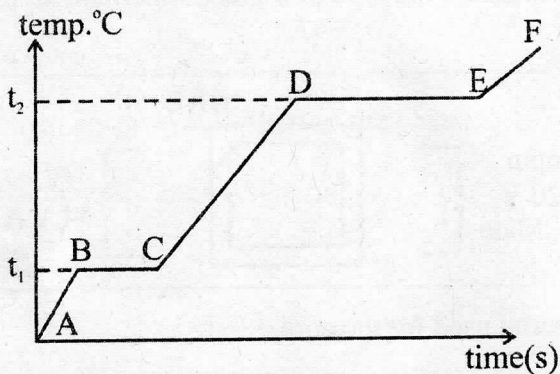
(i) Why is the slope of CD less than slope of AB?

(ii) What is the boiling and melting point of the substance?

(c) A piece of ice of mass 60 g is dropped into 140 g of water at 50°C. **[4]**
Calculate the final temperature of water when all the ice has melted.
(Assume no heat is lost to the surrounding)
Specific heat capacity of water = 4.2 $Jg^{-1}k^{-1}$
Specific latent heat of fusion of ice = 336 Jg^{-1}

Question 10

(a) (i) Draw a neat labeled diagram of a d.c. motor. **[3]**

(ii) Write any one use of a d.c. motor.

(b) (i) Differentiate between nuclear fusion and nuclear fission. **[3]**

(ii) State one safety precaution in the disposal of nuclear waste.

(c) An atomic nucleus A is composed of 84 protons and 128 neutrons. The nucleus **[4]**
A emits an alpha particle and is transformed into a nucleus **B**.

(i) What is the composition of B?

(ii) The nucleus B emits a beta particle and is transformed into a nucleus C.
What is the composition of C?

(iii) What is mass number of the nucleus A?

(iv) Does the composition of C change if it emits gamma radiations?

CHEMISTRY

SCIENCE Paper – 2

(Two hours)

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.

***Section I** is compulsory. Attempt **any four** questions from **Section II**.*

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

SECTION I (40 Marks)

*Attempt **all** questions from this Section*

Question 1

(a) Choose the correct answer from the options given below: [5]

(i) The element with *highest* ionization potential, is:

  A. Hydrogen

  B. Caesium

  C. Radon

  D. Helium

(ii) The *inert* electrode used in the electrolysis of acidified water, is:

  A. Nickel

  B. Platinum

  C. Copper

  D. Silver

This Paper consists of 9 printed pages and 1 blank page.

(iii) A compound with *low* boiling point, is:

    A.   Sodium chloride

    B.   Calcium chloride

    C.   Potassium chloride

    D.   Carbon tetrachloride

(iv) The *acid* which can produce carbon from cane sugar, is:

    A.   Concentrated Hydrochloric acid

    B.   Concentrated Nitric acid

    C.   Concentrated Sulphuric acid

    D.   Concentrated Acetic acid

(v) The organic compound having a *triple* carbon-carbon covalent bond, is:

    A. C_3H_4

    B. C_3H_6

    C. C_3H_8

    D. C_4H_{10}

(b)   State *one relevant observation* for each of the following reactions: [5]

    (i)   Action of concentrated nitric acid on copper.

    (ii)   Addition of excess ammonium hydroxide into copper sulphate solution.

    (iii) A piece of sodium metal is put into ethanol at room temperature.

    (iv) Zinc carbonate is heated strongly.

    (v)   Sulphide ore is added to a tank containing oil and water, and then stirred or agitated with air.

(c)   Write a balanced chemical equation for each of the following: [5]

    (i)   Reaction of carbon powder and concentrated nitric acid.

    (ii)   Reaction of excess ammonia with chlorine.

    (iii) Reaction of lead nitrate solution with ammonium hydroxide.

(iv) Producing ethane from bromo ethane using Zn / Cu couple in alcohol.

(v) Complete combustion of ethane.

(d) (i) Draw the structural formula for each of the following: [5]

1. 2,2 dimethyl pentane

2. methanol

3. Iso propane

(ii) Write the IUPAC name for the following compounds:

1. acetaldehyde

2. acetylene

(e) State one relevant reason for each of the following: [5]

(i) Graphite anode is preferred to platinum in the electrolysis of molten lead bromide.

(ii) Soda lime is preferred to sodium hydroxide in the laboratory preparation of methane.

(iii) Hydrated copper sulphate crystals turn white on heating.

(iv) Concentrated nitric acid appears yellow, when it is left for a while in a glass bottle.

(v) Hydrogen chloride gas fumes in moist air.

(f) Calculate: [5]

(i) The amount of each reactant required to produce 750 ml of carbon dioxide, when two volumes of carbon monoxide combine with one volume of oxygen to produce two volumes of carbon dioxide.

$$2CO + O_2 \rightarrow 2CO_2$$
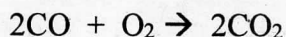
(ii) The volume occupied by 80 g of carbon dioxide at STP.

(iii) Calculate the number of molecules in 4.4 gm of CO_2.
[Atomic mass of C= 12, O=16]

(iv) State the law associated in question no. (f)(i) above.

(g) Give *one word or a phrase* for the following statements: [5]

(i) The chemical bond formed by a shared pair of electrons, each bonding atom contributing one electron to the pair.

(ii) Electrode used as cathode in electrorefining of impure copper.

(iii) The substance prepared by adding other metals to a base metal in appropriate proportions to obtain certain desirable properties.

(iv) The tendency of an atom to attract electrons to itself when combined in a compound.

(v) The reaction in which carboxylic acid reacts with alcohol in the presence of conc. H_2SO_4 to form a substance having a fruity smell.

(h) Fill in the blanks from the choices given in brackets: [5]

(i) The polar covalent compound in gaseous state that does not conduct electricity is _____.

(carbon tetra chloride, ammonia, methane)

(ii) A salt prepared by displacement reaction is _____.

(ferric chloride, ferrous chloride, silver chloride)

(iii) The number of moles in 11gm of nitrogen gas is _____.

(0.39, 0.49, 0.29) [atomic mass of N=14]

(iv) An alkali which completely dissociates into ions is _____.

(ammonium hydroxide, calcium hydroxide, lithium hydroxide)

(v) An alloy used to make statues is_____.

(bronze, brass, fuse metal)

Question 2

(a) The following table represent the elements and the atomic number. [3]
With reference to this, answer the following using only the alphabets given in the table.

Element	Atomic number
P	13
Q	7
R	10

  (i) Which element combines with hydrogen to form a basic gas?

  (ii) Which element has an electron affinity zero?

  (iii) Name the element, which forms an ionic compound with chlorine.

(b) Draw the electron dot diagram for the compounds given below. Represent the [3]
electrons by (.) and (x) in the diagram.

  [Atomic No.: Ca = 20, O = 8, Cl = 17, H = 1]

  (i) Calcium oxide

  (ii) Chlorine molecule

  (iii) Water molecule

(c) Choose the correct word which refers to the process of electrolysis from A to [4]
E, to match the description (i) to (iv):

  A: Oxidation B: Cathode C: Anode D: An electrolyte E: Reduction

  (i) Conducts electricity in aqueous or in molten state.

  (ii) Loss of electron takes place at anode.

  (iii) A reducing electrode.

  (iv) Electrode connected to the positive end or terminal of the battery.

Question 3

(a) Baeyer's process is used to concentrate bauxite ore to alumina. [3]

Give balanced chemical equations for the reaction taking place for its conversion from bauxite to alumina.

(b) Complete the following by selecting the *correct option* from the choices given: [3]

(i) pH of acetic acid is greater than dilute sulphuric acid. So acetic acid contains _____ concentration of H^+ ions. *(greater, same, low)*

(ii) The indicator which does not change colour on passage of HCl gas is _____. *(methyl orange, moist blue litmus, phenolphthalein)*

(iii) The acid which cannot act as an oxidizing agent is _____. *(conc. H_2SO_4, conc. HNO_3, conc. HCl)*

(c) Match the gases given in column I to the identification of the gases mentioned in column II: [4]

Column I	Column II
(i) Hydrogen sulphide	A. Turns acidified potassium dichromate solution green.
(ii) Nitric oxide	B. Turns lime water milky.
(iii) Carbon dioxide	C. Turns reddish brown when it reacts with oxygen.
(iv) Sulphur dioxide	D. Turns moist lead acetate paper silvery black.

Question 4

(a) Differentiate between the following pairs based on the information given in the brackets. [3]

(i) Conductor and electrolyte (conducting particles)

(ii) Cations and anions (formation from an atom)

(iii) Acid and Alkali (formation of type of ions)

(b)　Draw the structures of isomers of pentane.　[3]

(c)　Hydrogen chloride gas is prepared in the laboratory using concentrated sulphuric acid and sodium chloride. Answer the questions that follow based on this reaction:　[4]

(i)　Give the balanced chemical equation for the reaction with suitable condition(s) if any.

(ii)　Why is concentrated sulphuric acid used instead of concentrated nitric acid?

(iii)　How is the gas collected?

(iv)　Name the drying agent not used for drying the gas.

Question 5

(a)　Distinguish between the following pairs of compounds using a reagent as a chemical test:　[3]

(i)　Calcium nitrate and Zinc nitrate solution.

(ii)　Ammonium sulphate crystals and Sodium sulphate crystals.

(iii)　Magnesium chloride and Magnesium nitrate solution.

(b)　Calculate the percentage of:　[3]

(i)　Fluorine

(ii)　Sodium and

(iii)　Aluminium

in sodium aluminium fluoride $[Na_3AlF_6]$, to the nearest whole number.
[Atomic Mass: Na $= 23$, Al$= 27$, F$= 19$]

(c)　(i)　State the volume occupied by 40 gm of methane at STP, if its vapour density (V.D.) is 8.　[4]

(ii)　Calculate the number of moles present in 160 gm of NaOH.
[Atomic Mass: Na $= 23$, H$= 1$, O$= 16$]

Question 6

(a) Identify the salts **P, Q, R** from the following observations: [3]

    (i) Salt **P** has light bluish green colour. On heating, it produces a black coloured residue. Salt **P** produces brisk effervescence with dil. HCl and the gas evolved turns lime water milky, but no action with acidified potassium dichromate solution.

    (ii) Salt **Q** is white in colour. On strong heating, it produces buff yellow residue and liberates reddish brown gas. Solution of salt **Q** produces chalky white insoluble precipitate with excess of ammonium hydroxide.

    (iii) Salt **R** is black in colour. On reacting with concentrated HCl, it liberates a pungent greenish yellow gas which turns moist starch iodide paper blue black.

(b) Identify the substance underlined in each of the following: [3]

    (i) The <u>electrode</u> that increases in mass during the electro-refining of silver.

    (ii) The <u>acid</u> that is a dehydrating as well as a drying agent.

    (iii) The <u>catalyst</u> used to oxidize ammonia into nitric oxide.

(c) Copy and complete the following paragraph using the options given in brackets: [4]

Alkenes are a homologous series of (i) _____ (saturated / unsaturated) hydrocarbons characterized by the general formula (ii) _____ (C_nH_{2n+2} / C_nH_{2n}). Alkenes undergo (iii) _____ (addition / substitution) reactions and also undergo (iv) _____ (hydrogenation / dehydrogenation) to form alkanes.

Question 7

(a) Write balanced chemical equations, for the preparation of the given salts   [3]

(i) to (iii) by using the methods A to C respectively:

  A: Neutralization   *B: Precipitation*   *C: Titration*

(i) Copper sulphate

(ii) Zinc carbonate

(iii) Ammonium sulphate

(b) Name the following elements: [3]

(i) An alkaline earth metal present in group 2 and period 3.

(ii) A trivalent metal used to make light tools.

(iii) A monovalent non-metal present in fluorspar.

(c) An aqueous solution of nickel (II) sulphate was electrolyzed using nickel   [4]
electrodes. Observe the diagram and answer the questions that follow:
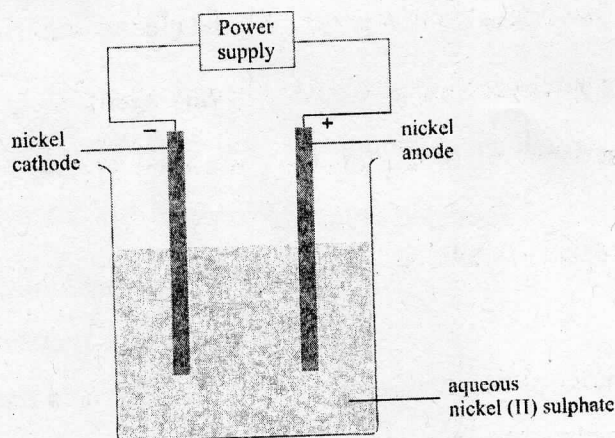
(i) What do you observe at the **cathode** and **anode** respectively?

(ii) Name the cation that remains as a spectator ion in the solution.

(iii) Which equation for the reaction at the anode is correct?

  1. $Ni \rightarrow Ni^{2+} + 2e^-$

  2. $Ni + 2e^- \rightarrow Ni^{2+}$

  3. $Ni^{2+} \rightarrow Ni + 2e^-$

  4. $Ni^{2+} + 2e^- \rightarrow Ni$

HISTORY & CIVICS

H.C.G. - Paper – 1

(Two Hours)

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.

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*Attempt **all** questions from **Part I** (Compulsory). A total of **five questions** are to be attempted from **Part II**, **two** out of **three questions** from Section **A** and **three** out of **five questions** from Section **B**.*

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

PART I (30 Marks)

*Attempt **all questions** from this Part*

Question 1

(a) Name the *two* Houses of the Indian Parliament. [1]

(b) What is meant by the term 'Session'? [1]

(c) How is the Speaker of the Lok Sabha elected? [1]

(d) What is the term of office of a Rajya Sabha member? [1]

(e) Who is the Supreme Commander of the Armed forces of India? [1]

(f) What is the normal term of office of the Vice President of India? [1]

(g) Who appoints the Prime Minister of India? [1]

(h) State the body that decides the major policies of the Government. [1]

(i) Name the Courts that are empowered to issue Writs for the enforcement of Fundamental Rights. [1]

(j) Mention *any one* advantage of the Lok Adalat. [1]

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Question 2

(a) Mention any two contributions of Bipin Chandra Pal in promoting Nationalism. [2]

(b) State *any two* methods adopted by the Early Nationalists in the National Movement. [2]

(c) Why is October 16, 1905 regarded as an important day in the history of the Indian National Movement? [2]

(d) Name *any two* leaders of the Khilafat Movement. [2]

(e) State *any two* causes for the Non-Cooperation Movement. [2]

(f) Mention *any two* objectives of the Forward Bloc. [2]

(g) What was meant by the term 'Imperialism', as a cause for World War I? [2]

(h) Give *any two* reasons for the rise of Fascism. [2]

(i) Name the *two* International Organisations that were formed, one as a consequence of World War I and the other after World War II. [2]

(j) Give the full form of UNICEF and WHO. [2]

PART II (50 Marks)
SECTION A
*Attempt any **two** questions from this Section*

Question 3

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

(a) Explain *any three* Legislative powers of the Union Parliament. [3]

(b) State *any three* exclusive powers of the Lok Sabha that is not enjoyed by the other House. [3]

(c) List *any four* functions of the Speaker of the Lok Sabha. [4]

Question 4

The Executive Power of the Indian Union is vested in the President.

In this context, answer the following:

(a)　How is the President of India elected? [3]
　　　State the composition of the Electoral College that elects him.

(b)　Explain *any three* Discretionary Powers of the President. [3]

(c)　Mention *any four* Executive Powers of the President. [4]

Question 5

With reference to the Supreme Court as the Apex Court in our Indian Judiciary, explain the following:

(a)　*Any three* cases that come under the Original Jurisdiction of the Supreme Court. [3]

(b)　Power of Judicial Review. [3]

(c)　Supreme Court as a Court of Record. [4]

SECTION B

*Attempt any **three** questions from this Section*

Question 6

By 1857, conditions were ripe for a mass uprising in the form of the Great Revolt of 1857. In this context, explain the following:

(a)　*Any three* Economic causes for the revolt of 1857. [3]

(b)　*Any three* Military causes. [3]

(c)　*Any three* Political causes of the revolt. [4]

Question 7

With reference to the Mass Phase of the National Movement under the leadership of Gandhi, answer the following:

(a)   Briefly explain the Dandi March of 1930. [3]

(b)   State *any three* reasons for the launching of the Quit India Movement. [3]

(c)   Explain *any four* significant effects of the Quit India Movement. [4]

Question 8

With reference to the Partition Plan, answer the following:

(a)   (i)   Name the last Viceroy of India. [3]

(ii)   State *any two* reasons for him to come to India.

(b)   Mention *any three* proposals under his plan. [3]

(c)   State *any four* reasons for the Congress to finally accept the Plan. [4]

Question 9

(a)   Name the organization associated with the above Emblem. [3]
Mention any two of its objectives.

(b)   Mention any three functions of WHO, as its agency. [3]

(c)   Name the Principal Judicial Organ of this organization and explain its composition. [4]

Question 10

With reference to the Second World War and the Non-Aligned Movement, answer the following:

(a) Explain briefly *three* reasons for the Dissatisfaction with the Treaty of Versailles. [3]

(b) State *any three* consequences of the Second World War. [3]

(c) Mention *any four* chief architects of the Non-Aligned Movement. [4]