



Date : 29.09.2023

MIDTERM EXAMINATION - 2023

Time : 3 Hrs.

Class : XI

Subject : English Core

Max. Marks : 80

General instructions:

1. The Question Paper contains **THREE** sections - **READING, GRAMMAR & CREATIVE WRITING and LITERATURE.**
2. Attempt questions based on specific instructions for each part.

SECTION A : READING SKILLS (26 marks)

Q1. Read the passage given below.

(10 Marks)

I. I got posted in Srinagar in the 1980s. Its rugged mountains, gushing rivers and vast meadows reminded me of the landscapes of my native place – the Jibhi Valley in Himachal Pradesh. Unlike Srinagar that saw numerous tourists, Jibhi Valley remained clouded in anonymity. That's when the seed of starting tourism in Jibhi was planted. I decided to leave my service in the Indian Army and follow the urge to return home.

II. We had two houses – a family house and a traditional house, which we often rented out. I pleaded with my father to ask the tenant to vacate the house so that I could convert it into a guesthouse. When my family finally relented, I renovated the house keeping its originality intact, just adding windows for sunlight.

III. I still remember the summer of 1992 when I put a signboard outside my first guesthouse in Jibhi Valley. The village residents, however, were sceptical about my success. My business kept growing but it took years for tourism to take off in Jibhi Valley. Things changed significantly after 2008 when the government launched a homestay scheme. People built homestays and with rapid tourism growth, the region changed rapidly. Villages turned into towns with many concrete buildings. Local businesses and tourists continued putting a burden on nature.

IV. Then, with the 2020-21 pandemic and lockdown, tourism came to a complete standstill in Jibhi Valley. Local people, who were employed at over a hundred homestays and guesthouses, returned to their villages. Some went back to farming; some took up pottery and some got involved in government work schemes. Now, all ardently hope that normalcy and tourism will return to the valley soon. In a way, the pandemic has given us an opportunity to introspect, go back to our roots and look for sustainable solutions.

V. For me, tourism has been my greatest teacher. It brought people from many countries and all states of India to my guest house. It gave me exposure to different cultures and countless opportunities to learn new things. Most people who stayed at my guesthouse became my repeat clients and good friends. When I look back, I feel proud, yet humbled at the thought that I was not only able to fulfil my dream despite all the challenges, but also play a role in establishing tourism in the beautiful valley that I call home.

Based on your understanding of the passage, answer the following questions:

i. The scenic beauty of Srinagar makes the writer feel

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- A. awestruck B. nostalgic C. cheerful D. confused

ii. A collocation is a group of words that often occur together. The writer says that Jibhi valley remained clouded in anonymity.

1

Select the word from the options that correctly collocates with 'clouded in anonymity'.

- A. disgust B. anger C. doubt D. terror

iii. Complete the given dialogue appropriately, as per the context in paragraph II.

1

Father: Are you sure that your plan would work?

Writer: I can't say _____.

Father: That's a lot of uncertainty, isn't it?

Writer: Nothing venture nothing win, father. Please let's do this.

iv. Why did the writer consider tourism as his greatest teacher? Why did he feel proud yet humbled? Explain in about 40 words.

2

Contd...2

v. The writer mentions looking for sustainable solutions. He refers to the need for sustainable solutions because he realises that 1

- A. even though all natural ecosystems are essential pillars of resilience, we need to focus on using their resources to address the economic needs of mankind, as a priority.
- B. the exposures to pandemics are a reality and a big threat to the countries across the world.
- C. for an economic recovery to be durable and resilient, a return to 'business as usual' and environmentally destructive investment patterns and activities must be avoided.
- D. there is an increasing urgency in the climate movement and the need for collaborative action for the future.

vi. Select the option that lists what we can conclude from the text. 1

- (1) people of Jibhi Valley practiced sustainable tourism.
- (2) the people of Jibhi valley gradually embraced tourism.
- (3) tourists never revisited Jibhi Valley.
- (4) the writer was an enterprising person.
- A. (1) and (2) are true. B. (2), (3) and (4) are true.
- C. (2) and (4) are true. D. (1), (3) and (4) are true

vii. What were the repercussions of the pandemic on tourism in Jibhi valley? 2

viii. In the summer of 1992 the writer launched his business. What was the reaction of the villagers? 1

Q2. Read the passage below.

(8 Marks)

1. In the present technetronic world, protecting ourselves from cybercrimes is a necessity. According to the National Crime Records Bureau (NCRB) report, a total of 50,035 cybercrimes were registered in 2020. That figure stood at 27,248 in 2018 and 44,735 in 2019. A total of 18,420 persons were arrested and subsequently convicted by the court for crimes. The report also revealed an alarming rise in the rate of cybercrimes against children.

2. Everyone should be mindful of the importance of cyber security awareness. We cannot cease ourselves from digitalizing; it is essential that we move with the flow. Hence, taking measures to protect ourselves is important.

3. A descriptive study was conducted to identify the level of basic knowledge of cyber security among a group of post-graduate students, who were prospective teachers, studying in a reputed university in Uttar Pradesh. The sample included 100 respondents including 40 males and 60 females. Data was collected using a questionnaire on certain dimensions of password strength, virus attacks, cybercrime and social media behaviour. The table below shows the responses of the participants in the study.

Table 1: RESPONSES TO ASPECTS THAT RELATE TO CYBER SECURITY

S.no.	Parameters Tested	'Yes' Responses (in %)	'No' Responses (in %)
(I)	PASSWORD STRENGTH		
(i)	Changes password periodically	53.8	46.2
(ii)	Reuses previous password	46.2	53.8
(iii)	Uses same password for each account	44.5	55.5
(iv)	Shares password with others	15.4	84.6
(v)	Accepts prompt to save password	51	49
(vi)	Uses common dictionary words as password	17.3	82.7
II.	VIRUS ATTACK		
(i)	Protects laptop using Antivirus software	79.6	29.4
(ii)	Checks viruses with a virus scanner	52	48
(iii)	Downloads free software from untrustworthy sources	22	78
III.	CYBERCRIME		
(i)	Has been a victim of a cyberattack	11.8	88.2
(ii)	Has reported cyberattacks to the authorities	2	98
(iii)	Has knowledge of cybercrime investigation cell	32	68
(iv)	Has knowledge of registration of cybercrimes	22	78
(v)	Has knowledge of Information Technology Act	21.6	78.4
IV.	SOCIAL MEDIA BEHAVIOUR		
(i)	Has unknown people as friends on social media	52.9	47.1
(ii)	Shares personal information on social media	23.5	76.5

4. The study also revealed that in many cases, friends, family members or even partners are found to be guilty of the crimes reported. Also, though men and women are both prone to cybercrimes, it was noticed that women were victims of these crimes more than men. Everyone must make a unified effort towards building a safe digital world for all.

Based on your understanding of the passage, answer the questions given below:

i. Does the following statement agree with the information given in the passage?

It is appropriate that parents withhold their children from accessing social media until they are at least 13 years old.

Select from the following:

True - if the statement agrees with the information

False - if the statement contradicts the information

Not Given - if there is no information on this

1

ii. Since today's children are familiar with the internet from an early age, is it necessary that they are trained in cyber safety? Support your answer with reference to the text.

1

iii. The most likely reason for including point (ii) under 'Social Media Behaviour' is to find out if respondents

- A. are truthful about their personal details being shared
- B. check whether people like to stay connected virtually
- C. are at the risk of their shared personal details being misused
- D. check whether privacy settings on social media are user-friendly

1

iv. Why does the passage refer to the NCRB data in paragraph 1 ?

- A. to convey the relevance of raising cyber security awareness
- B. to highlight the role of the bureau in promoting cyber security
- C. to show that only a small percentage of cyber criminals are convicted
- D. to indicate that the rate of cybercrimes decreased between 2019 and 2020

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v. Paragraph 2 makes it clear that the best way to ensure cyber safety is to remain

- A. Unified
- B. Cautious
- C. Optimistic
- D. Persistent

1

vi. Complete the sentence appropriately in one/two words.

In the table given, the responses to point (ii) under 'Cybercrime' show that people may feel _____ about reporting crimes to the concerned authorities.

1

vii. Based on the reading of the text, state an argument in 40 words to challenge the given statement.

2

If people interact through social media only with others who are personally known to them, they need not worry about being victims of cybercrimes.

Q3. Read the given passage:

(8 Marks)

ChatGPT is an innovative artificial intelligence (AI) language model developed by OpenAI, one of the leading AI research organizations in the world. It is an advanced deep learning system designed to understand, analyze and generate human-like language, making it one of the most powerful conversational AI tools available today. ChatGPT has numerous applications in various industries, including customer service, education, healthcare, and entertainment. It can be used in chat bots and virtual assistants to provide personalized and responsive customer support. It can also be used in language translation, content creation, and social media analysis. Open AI has implemented several measures to ensure the responsible use of ChatGPT. For example, they have restricted access to the most advanced versions of the model and implemented guidelines for ethical use. They have also released tools and resources to help researchers and developers mitigate the risks associated with using the technology.

In conclusion, ChatGPT is a powerful and innovative AI language model that has the potential to revolutionize the way we communicate and interact with technology. Its advanced capabilities in natural language processing and generation have numerous practical applications across a range of industries. However, it is important to use this technology responsibly and with consideration of the potential risks and ethical implications.

a) On the basis of your understanding of the above passage, make notes on it using headings and sub-headings. Use recognizable abbreviations (wherever necessary-minimum four) and a format you consider suitable. Also supply an appropriate title to it.

5

b) Write a summary of the above passage in 50 words.

3

Contd...4

Section B – 23 Marks (Grammar and Creative Writing Skills)
GRAMMAR

Q4. Attempt ANY SEVEN Out of the following:

(1x7= Marks)

i. Which option displays the correct change of the following to reported speech?

Sunitha asked Venkat, "How much is the rent for your flat?"

- A. Sunitha asked Venkat how much was his rent for flat.
- B. Sunitha asked Venkat how much the rent for his flat was.
- C. Sunita enquires from Venkat that how much rent he pays.
- D. Sunita told Venkat how much the rent for his flat was.

ii. Which option displays the correct change of the following to reported speech?

She said, "I told Damanjit to send you an e-mail three days ago."

- A. She told that Damanjit had mailed you three days then.
- B. She informed me that Damanjit has mailed me three days before.
- C. She says that she has told Damanjit to send me an e-mail three days then.
- D. She said that she had told Damanjit to send an e-mail to me three days before.

iii. Fill in the blank by using the correct form of the word given in the bracket, for the given portion of a letter:

Subject: Request for Approval

Dear Sir

This is to respectfully submit that I _____ (seek) approval for organising a tree plantation drive to be undertaken by the club.

iv. Complete the given narrative, by filling in the blank with the correct form of the word given in bracket

As I was standing on the dock, looking out at the lake for the last time, a feeling of emptiness _____ (wash) over me like darkness.

v. Rearrange the following sentences to form a meaningful paragraph.

- a. But the shopkeeper knew that if he quoted such a low price to the Maharaja, he would be punished under the rules of the Emergency.
- b. "Very good. Let this be your offering to the crown prince on his birthday," said the king and took it away with him.
- c. The wooden tiger costed only two annas and a quarter.
- d. So, he said, "Your Majesty, this is an extremely rare example of craftsmanship. A bargain at three hundred rupees!"

Choose the correct option:

- A. cadb
- B. abcd
- C. dcab
- D. bcad

vi. Fill in the blank by choosing the correct option to complete this advertisement.

Are you looking for more books to read? Due to popular demand, we _____ back our 'Buy One Get One Free' offer next weekend.

- A. brings
- B. brought
- C. will bring
- D. were bringing

vii. Rearrange the following words or phrases into a meaningful sentence.

can be /used as fuel / ethyl alcohol / for cars / extracted /sugar cane / from

viii. Rearrange the following words or phrases into a meaningful sentence.

rain water / flooding / helps/ harvesting / in / chances of / reducing

Creative Writing Skills (16 Marks)

Q5. Attempt ANY ONE of two in about 50 words:

(3 Marks)

- A. You are Sanjoya/Sujal Verma. You want to let out your two BHK house in Surya Vihar, Bhilai. Prepare an advertisement to this effect for publication in "The Hitavada" giving the location of the building, nature of accommodation, rent expected, etc.
- B. You are Krishna/Tisha Joshi, Secretary, Greenland Enterprises Ltd, Delhi-110006. Your Chairman has asked you to draft an advertisement for a local daily under the classified columns for the vacant post of an accountant. Draft the advertisement.

Q6. Attempt ANY ONE of two in about 50 words:

(3 Marks)

- A. Design a poster urging people to adopt the three Rs — Reduce, Reuse, Recycle. Draft this poster on behalf of Ministry of Environment, Government of India.
- B. You are the Mayor of your town. The Municipal Corporation of your town has decided to conduct a 'Tree Plantation Programme' to make your city, a 'Green City'. Design a poster to invite participation from the public for this noble cause.

(5 Marks)

Q7. Attempt ANY ONE of two in about 120-150 words:

A. You are Hemant/Harsha the Head boy/Head girl of your school. The following advertisement in a newspaper caught your attention. You decide to make your schoolmates aware of the pollution caused by plastic bags. Using the hints given below, prepare a speech you intend to deliver in the morning assembly giving useful suggestions.



HINTS FOR HELP

- made of harmful chemicals
- things in them become unhealthy
- choke drainage
- animals may eat; stuck in their bodies
- not easy to "kill" them

B. You are Swati/Swastik, Head girl/Head boy of Delhi Public School, Bhilai. You attended a seminar where speakers narrated their experiences of the adverse impact of Video game addiction, also called as 'Internet gaming disorder,' on our daily life. You decide to enlighten your school mates on this helpless state by delivering a speech in the morning assembly on the topic 'Internet gaming disorder'. Include the hints given below to write your speech.

HINTS	
Effect of Video Game Addiction • Video Game Addiction harms us physically and mentally. • It weakens our vision, our body, and starts a pain in joints of fingers. • It is also a reason for increasing depression, poor vision, high and low blood pressure.	Solution • We can limit the use of Video Games. • Play them only to refresh your mind, not to waste your time. • Never stop your urgent work for playing video games • Decide duration for playing them

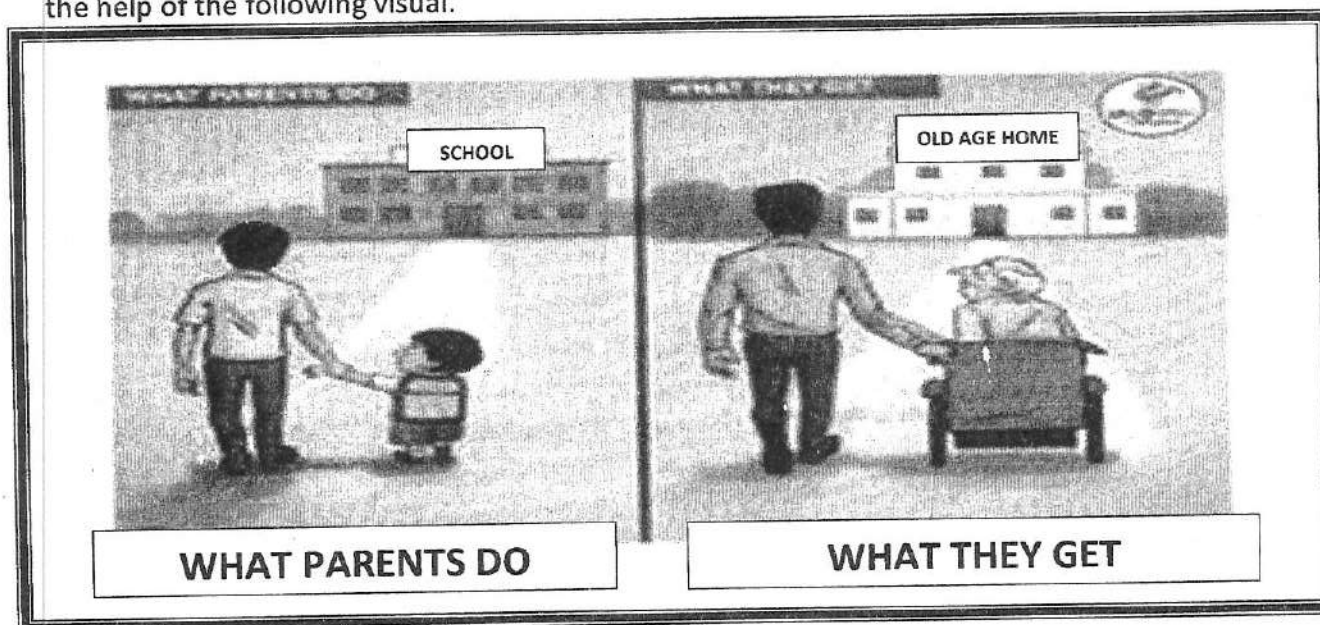
Q8. Attempt ANY ONE of two in about 120-150 words:

(5 Marks)

A. Your English teacher will be conducting an Intra-section debate. The topic of debate is 'Should schools promote coaching institutes?' Using the cues given and your own ideas, write a debate either for or against the motion. You are Navtej/Navita of class 11.

- ❖ Despite CBSE's ban, coaching centers are running classes in schools.
- ❖ Teachers from coaching institutes teach subjects like physics, chemistry and mathematics.
- ❖ English and physical education continue to be taught by the school faculty.
- ❖ Classes in separate sections from 8 a.m. to 12 noon for the CBSE and competitive examinations.

B. You are Shivani/Shivansh Dixit. Write a debate against the topic 'Old age homes are a necessity in India' with the help of the following visual.



Section C – 31 Marks (Literature Text Book and Supplementary Reading Text)

Q9. Read the given extracts and answer the questions for ANY ONE of the two extracts. (1x3=Marks)

A. Some twenty — thirty — years later

She'd laugh at the snapshot. "See Betty
And Dolly," she'd say, "and look how they
Dressed us for the beach." The sea holiday
Was her past, mine is her laughter. Both wry
With the laboured ease of loss.

(A Photograph)

i. Which poetic device has been used in the line 'with laboured ease of loss'?

- A. Oxymoron B. Simile C. Metaphor D. Personification

ii. The poet's mother would laugh looking at the photograph. Why?

iii. Select a suitable word from the extract to complete the following analogy

Wise : foolish :: Difficulty : _____

B. The Laburnum top is silent, quite still

In the afternoon yellow September sunlight,
A few leaves yellowing, all its seeds fallen.

(The Laburnum Top)

i. Which poetic device has been used in the second line of the extract?

- A. Oxymoron B. Alliteration C. Metaphor D. Transferred epithet

ii. Answer in one word:

The yellowing leaves describe the season of _____.

iii. When did the death-like tree become alive?

Q10. Read the given extracts and answer the questions for ANY ONE of the two extracts. (1x3=3 Marks)

A. There, before heading east, we took on two crewmen — American Larry Vigil and Swiss Herb Seigler — to help us tackle one of the world's roughest seas, the southern Indian Ocean. On our second day out of Cape Town, we began to encounter strong gales. For the next few weeks, they blew continuously. Gales did not worry me; but the size of the waves was alarming — up to 15 metres, as high as our main mast. ("We're not afraid to die....if we can all be together")

i. Select the option that completes the given sentence appropriately.

'Took on' in the given context would refer to _____.

- A. Fighting with someone B. Employing someone C. Helping someone D. Leaving someone behind

ii. Based on the above extract, choose the statement that is true for the narrator.

- A. He was heading in the western direction. B. He took on no crewmen.
C. He was not worried about the gales. D. He thought the size of the waves was small.

iii. Identify the word from the extract that is similar in meaning to the word 'frightening'.

B. They remain the richest royal collection ever found and have become part of the pharaoh's legend. Stunning artefacts in gold, their eternal brilliance meant to guarantee resurrection, caused a sensation at the time of the discovery — and still get the most attention. But Tut was also buried with everyday things he'd want in the afterlife: board games, a bronze razor, linen undergarments, cases of food and wine.

(Discovering Tut: The Saga Continues)

i. Select the option that completes the given statement correctly.

'Caused a sensation' in the given context would refer to _____.

- A. Something very popular or talked about. B. Something very irritating.
C. Something that people hate. D. Something that is ignored by people.

ii. Based on the above extract, choose the statement that is True for King Tut.

- A. He was not a pharaoh.
B. People did not pay attention to the discovery of gold artefacts found with his body.
C. The artefacts were buried with him to ensure resurrection.
D. Only gold artefacts were found with his body.

iii. Name the 'everyday things' King Tut was buried with.

Q11: Read the given extracts and answer the questions for ANY ONE of the two extracts. (1x4= Marks)

A. Before him was our uncle Khosrove, an enormous man with a powerful head of black hair and the largest moustache in the San Joaquin Valley, a man so furious in temper, so irritable, so impatient that he stopped anyone from talking by roaring, It is no harm; pay no attention to it.

That was all, no matter what anybody happened to be talking about. Once it was his own son Arak running eight blocks to the barber's shop where his father was having his moustache trimmed to tell him their house was on fire. **(The Summer of the Beautiful White Horse)**

i. In the given extract, the narrator is talking about

- A. The mischievousness that runs in the family.
- B. The crazy streak that runs in the family.
- C. The dishonesty that runs in the family.
- D. The kind of active lifestyle that members of the family follow.

ii. Choose the correct option with reference to the statements given below

Statement 1: The reference to Khosrove is to highlight Mourad's personality.

Statement 2: Unlike Khosrove, Mourad is calm at all situations.

- A. Statement 1 is true but statement 2 is false.
- B. Statement 1 is false but statement 2 is true.
- C. Both Statement 1 and statement 2 cannot be inferred
- D. Both statement 1 and statement 2 can be inferred

iii. How did uncle Khosrove reply when his son told him the news about their house on fire?

iv. Complete the following statement appropriately, with reference to the extract

Uncle Khosrove's behaviour has been described as _____.

B. I was home for a few days and it struck me immediately that something or other about the rooms had changed. I missed various things. My mother was surprised I should have noticed so quickly. Then she told me about Mrs Dorling. I had never heard of her but apparently she was an old acquaintance of my mother, whom she hadn't seen for years. She had suddenly turned up and renewed their contact. Since then she had come regularly.

'Every time she leaves here she takes something home with her,' said my mother. 'She took all the table silver in one go. And then the antique plates that hung there. She had trouble lugging those large vases, and I'm worried she got a crick in her back from the crockery.' **(The Address)**

i. According to the story, which trait of Mrs. Dorling does the author highlight

- A. Selfish
- B. Opportunist
- C. Materialistic
- D. All of these

ii. 'Every time she leaves here she takes something home with her'. Mrs. S gave her possessions to Mrs. Dorling as she thought that Mrs. Dorling would

- A. sell them
- B. Use them
- C. Donate them
- D. Keep them safe

iii. What did the narrator notice when she visited her house during the first half of the war?

iv. Complete the sentence appropriately in not more than ONE word, with reference to the extract

Since Mrs. Dorling suddenly turned up and renewed the contact with the narrator's mother, she had come _____.

Q12. Answer the following questions, in about 40-50 words.

(6 marks)

A. Answer ANY ONE of the following two questions:

(1x3=3)

- i. What has not changed over the years? Does this suggest something to you? **(A Photograph)**
- ii. 'Then sleek as a lizard and alert and abrupt, She enters the thickness'. Explain the given line. **(The Laburnum Top)**

B. Answer ANY ONE of the following two questions:

(1x3=3)

- i. How did Suzanne remain a strong girl in the disastrous situation? **("We're not afraid to die....if we can all be together")**
- ii. Why did the boy king change his name from Tutankhaten to Tutankhamun? **(Discovering Tut: The Saga Continues)**

Q13. Answer ANY ONE of the following two questions in about 40-50 words (3 marks)

- i. How did the narrator recognise her own familiar woollen tablecloth? (**The Address**)
- ii. Describe Mourad's parting from the beautiful white horse. (**The summer of the beautiful white horse**)

Q14. Answer ANY ONE of the following two questions in about 120-150 words (6 marks)

- A.** In the lesson '**The portrait of a lady**', the author has paid tribute to his grandmother by writing a pen-portrait of her. Similar instances can be seen in the poem '**A Photograph**' where the poet has also paid a tribute to her mother by writing a poem. This made you think that writing about a loved one is much better than drawing their portraits or building their statues. Write a paragraph expressing your opinion about why writing about a deceased loved one is the ideal way to remember them.

You may begin like this

Many writers have paid tributes to their loved ones.....

- B.** The story, "**We're not afraid to die..... if we can all be together**" is about the extreme bravery and skill exhibited by Gordon Cook, his family and crewmen in a war with water and the waves for existence. It is an example of the fact that courage, bravery, and togetherness can be a remedy for any problem. It also focuses on how we should react when we are surrounded by problems from everywhere and how we should not lose hope. Being optimistic is the key to tackle all the hurdles and pave the way to success.

Imagine yourself to be a motivational speaker who has to address high school students. Write this address elaborating on occurrences from the text to inspire your audience to challenge the hurdles of life and pave the way to success.

You may begin like this

Good morning, students!

It is said that the hurdles of life can.....

Q15. Answer ANY ONE of the following two questions in about 120-150 words (6 marks)

- A.** Both Aram and Mourad diverted a little bit from their family values for some time. However, they corrected themselves when they realised their mistake.

You are Adipti /Aditya Sinha of class 11. After reading the lesson '**The Summer of the Beautiful White Horse**', you were highly impressed by this behaviour of Mourad and Aram. To express your appreciation for these two boys and also to ponder on the need of such a behaviour in the contemporary times, write a diary entry about the human values reflected in the character of these two young boys.

You may begin like this

Date : 29.09.2023

Dear Diary

I was highly impressed by.....

10 pm

- B.** War, an act of violent confrontation between nations or groups, has been a constant throughout human history. Despite its ubiquity, the futility of war is a concept that remains relevant, highlighting the inefficiency and destruction it brings. As the conflict in Ukraine shows no signs of subsiding even though diplomatic dialogue continues, there is much to reflect on some deeper issues of how war and conflict are likely to play out in the 21st Century.

The story '**The Address**' brings out the sufferings and loss that are brought on by war.

Imagine yourself to be a war Veteran who has to address a peace forum. Write this speech discussing and elaborating upon the instances of massive loss and destruction due to war. Also emphasise on the widespread trauma caused by the atrocities and suffering of the civilian population.

You may begin like this

Good morning ladies and gentlemen

Where there is war, there is loss, destruction and suffering. War is an evil that

**General Instructions :**

- There are 33 questions in all. All questions are compulsory.
- This question paper has five sections : A, B, C, D and E.
- All the sections are compulsory.
- **Section A** contains sixteen questions, twelve MCQs and four Assertion-Reasoning based of 1 mark each.
- **Section B** contains five questions of two marks each.
- **Section C** contains seven questions of three marks each.
- **Section D** contains two case study based questions of four marks each and
- **Section E** contains three long answer questions of five marks each.
- There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each MCQ in Section D and all three questions in Section E. You have to attempt any one of the choices in such questions.
- Use of calculator is not allowed.

Section – A

01. $ML^{-1}T^{-2}$ is dimensional formula of :
(a) Stress (b) Strain (c) Tension (d) Angular momentum (1)
02. Number of significant figures in 0.2370 g cm^{-3}
(a) 1 (b) 2 (c) 3 (d) 4 (1)
03. The displacement of a body is given to be proportional to cube of time elapsed. The magnitude of acceleration of body is
(a) increasing with time (b) decreasing with time (c) constant but not zero (d) zero (1)
04. The velocity of a body is given by $V=2t+5 \text{ m/s}$. It's acceleration is:
(a) 5 m/s^2 (b) $\frac{5}{2} \text{ m/s}^2$ (c) 2 m/s^2 (d) zero (1)
05. Magnitude and direction of $(\vec{A} - \vec{B})$ and $(\vec{B} - \vec{A})$ are
(a) different magnitude but same direction. (b) different magnitude but opposite direction.
(c) equal magnitude but opposite direction. (d) equal magnitude and same direction. (1)
06. Value of $\hat{i} \cdot \hat{j}$ is equal to
(a) 1 (b) $\hat{i} \times \hat{j}$ (c) zero (d) 90° (1)
07. A cricketer pulls his hand back while taking a catch. This statement can be well explained by using:
(a) 1st law of motion (b) 2nd law of motion
(c) 1st equation of motion (d) 2nd equation of motion (1)
08. A ball of mass 100g hits a bat with a speed of 72 km/hr and bounces back with same speed in one second. The force exerted by the bat on the ball is –
(a) 2N (b) 10N (c) 100N (d) 4N (1)
09. A body of mass m is placed on a rough horizontal surface. Co-efficient of friction between both the surfaces is ' μ '. If the mass of body is doubled the new coefficient of friction will be
(a) $\frac{\mu}{2}$ (b) 2μ (c) μ (d) 3μ (1)
10. Linear momentum of a body is increased by 10%. What will be the percentage increase in its kinetic energy
(a) 10% (b) 20% (c) 21% (d) 121% (1)
11. Work done by centripetal force on body is –
(a) zero (b) positive (c) negative (d) none of these (1)
12. If stretch in a spring of force constant k is doubled, the ratio of elastic potential energy stored $\left(\frac{U_f}{U_1}\right)$ in two cases
(a) 1 : 2 (b) 2 : 1 (c) 1 : 4 (d) 4 : 1 (1)

For Questions 13 to 16, two statements are given – one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options given below:

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- (b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).
- (c) Assertion (A) is true but Reason (R) is false.
- (d) Assertion (A) and Reason (R) both are false.

13. **Assertion (A) :** The speedometer of an automobile measures the average speed of automobile.
Reason (R) : Average velocity is equal to total distance divided by total time taken. (1)
14. **Assertion (A) :** Horizontal component of velocity of a projectile is always constant.
Reason (R) : Acceleration acting on a projectile is acceleration due to gravity which is directed towards centre of earth. (1)
15. **Assertion (A) :** Work is done only by conservative force.
Reason (R) : Non conservative forces are no good to do work. (1)
16. **Assertion (A) :** Work done by frictional force is negative.
Reason (R) : This is because frictional force acts along the direction of motion. (1)

Section – B

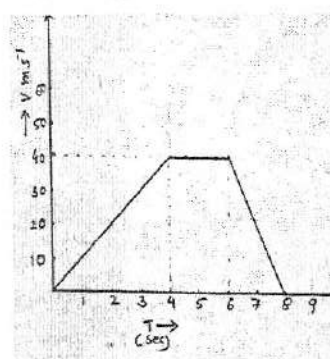
17. Write any two limitations of dimensional analysis. (2)
18. State Parallelogram law of vector addition. Draw a suitable diagram and write the formula for Resultant of two vectors by analytical method. (2)
19. At what point in its trajectory does a projectile
(i) have its (a) minimum speed (b) maximum speed
(ii) What is the angle between velocity vector and acceleration vector at the highest point?
In an oblique projectile motion. (2)
20. State Hooke's law and plot a graph showing variation of spring force with displacement. (2)
21. A body is initially at rest. It undergoes one dimensional motion with constant acceleration obtain the expression for power delivered to it at time 't'. (2)

OR

A particle of mass 0.5 kg travels in a straight line with velocity $v = ax^{3/2}$ where $a = m^{-1/2}s^{-1}$. What is the work done by the net force during its displacement from $x = 0$ to $x = 2$ m

Section – C

22. Find the value of 100 J on a system which has 20 cm, 250 g and half minute as fundamental units of length, mass and time, by dimensional method. (3)
23. The velocity time graph is shown in figure
(a) Draw acceleration time graph for the same.
(b) Calculate displacement covered by body
In time $t=4$ s to $t=6$ s (3)



24. The velocity v of sound waves through a medium may be assumed to depend on :
(i) The density of the medium 'd' and
(ii) The modulus of elasticity 'E'. Deduce by the method of dimensions the formula for velocity of sound. [Take dimensionless constant $k=1$] (3)
 - 25 (i) Define Cross Product of two vectors
(ii) Find Cross Product of vectors $4\hat{i} - \hat{j} + 3\hat{k}$ and $-2\hat{i} + \hat{j} - 2\hat{k}$ (3)
 26. State and prove work energy theorem for a variable force. (3)
- OR
- What are conservative and non-conservative force? Write two differences.
27. A body of mass 2 kg initially at rest moves under the action of an applied horizontal force of 7N on a table with coefficient of kinetic friction $=0.1$. Compute the
(a) work done by net force in 10 sec (b) work done by friction force in 10 sec. (Take $g=10m/s^2$) (3)
 - 28 (a) State law of conservation of energy. (1+2)
(b) A ball falls under gravity from a height of 10 m with an initial downward velocity u . It collides with the ground, loses 50% of its energy and then rises back to same height. Find the initial velocity u .

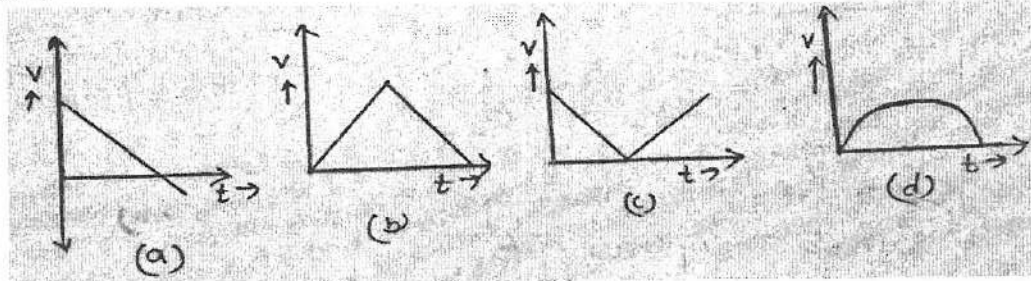
29. Case Study - Free Fall

(1x4)

If an object is released from a height near the surface of earth. It is accelerated downwards under the influence of gravity with acceleration equal to acceleration due to gravity 'g'. If the air resistance is neglected the object is said to be in free fall. If the height through which the object falls is very small compared to the radius of earth then 'g' can be taken constant.

Answer the following questions :

- (i) A ball is thrown vertically upward. Ignoring air resistance, which one of the following represents $v - t$ graph for the ball.



- (ii) The slope of $x - t$ graph at any instant of freely fall body represents.
(a) velocity (b) displacement (c) acceleration (d) energy
- (iii) Two balls of same size but different masses m_1 and m_2 ($m_1 < m_2$) respectively, are dropped simultaneously and allowed to free fall from same height in vacuum. The time taken by both the balls are t_1 and t_2 . Choose the correct option:
(a) $t_1 > t_2$ (b) $t_1 = t_2$ (c) $t_1 < t_2$ (d) $t_1 + t_2 = 0$
- (iv) A body is projected upward with speed u and it returns back to same point with speed v . If no loss of energy takes place select the correct option:
(a) $v = 0$ (b) $v = 2u$ (c) $v = \frac{u}{2}$ (d) $v = u$

OR

What will be the ratio of distance moved by a freely falling body from rest in 4th and 5th second of journey.

- (a) 4 : 5 (b) 7 : 9 (c) 16 : 25 (d) 1 : 1

30. Case Study - Linear Momentum

(1x4=4)

When a small piece of stone is dropped from small height on a glass pane placed on a table, it does not break the glass. But when a heavy stone is dropped from the same height the glass pane breaks. As both the stones are falling from same height their velocities are same. On the other hand a greater effort is required to stop a bullet fired from the gun than to stop a bullet of the same mass when just thrown by the hand. Above examples momentum of any body.

- (i) A particle is moving in a circle with uniform speed v . In moving from a point to another diametrically opposite point.

- (a) The change in momentum is mv .
(b) The change in momentum is $2mv$.
(c) The change in K.E. is $\frac{1}{2}mv^2$.
(d) The change in K.E. is mv^2

- (ii) Due to a force F velocity of a body of mass m changes from u to v .
What will be the impulse acting on it.

- (a) $mv - mu$ (b) $(v - u)$ (c) $\frac{F}{v-u}$ (d) $\frac{F}{m}$

- (iii) Which of the following is not an example of law of conservation of linear momentum.

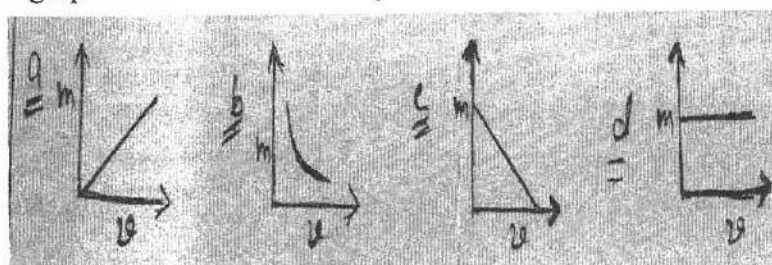
- (a) Explosion of a bomb (b) Firing of bullet
(c) Rocket propulsion (d) Projectile motion

- (iv) SI unit of change in momentum is

- (a) Ns (b) N/m^2 (c) $kg\ m/s^2$ (d) None of these

OR

Select the correct graph if momentum of body is constant -



:: 4 ::
Section – E

- 31 (a) Derive an expression for trajectory of body when projected from ground with velocity u making an angle θ with horizontal.
(b) Write pair of angles for which horizontal range of above projectile is same.
(c) For what angle of projection the horizontal range is maximum? (3+1+1=5)

OR

- (a) Derive expression for centripetal acceleration of body in uniform circular motion.
(b) What is angle between instantaneous velocity and centripetal acceleration in uniform circular motion.
(c) Write relation between linear acceleration and angular acceleration.
- 32 (a) What is Limiting Friction? Write laws of limiting friction.
(b) A 30 kg block rests on rough horizontal surface. A force 200 N is applied on the block and it acquires a speed of 4 m/s. starting from rest in 2 sec. What is the value of coefficient of friction. (3+2=5)

OR

- (a) What is banking of road? Derive an expression for maximum speed with which a car can turn safely on rough banked circular road.
(b) A cricket ball is rolled on ice floor with velocity of 5.6 m/s. and comes to rest after travelling 8 m. Find coefficient of friction. Given $g=9.8 \text{ m/s}^2$.
- 33 (a) What is elastic collision? Show that for one dimensional elastic collision, the value of coefficient of restitution is one.
(b) The average work done by a human heart while it beats once is 0.5 J.
Calculate the power used by heart if it beats 72 times in a minute (3+2=5)

OR

- (a) Find expression for the minimum velocity at lowest point while looping a vertical circle. Also find tension in the string at lowest point, if tension at highest point is zero.
(b) A stone of mass 0.3kg is tied to one end of a string 0.8 m long and rotated in vertical circle. At what speed of the stone will the tension in the string be zero highest point of the circle what will be the tension at lowest point. ($g=10\text{m/s}^2$).

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General Instructions :

- There are 33 questions in this question paper. All questions are compulsory.
- The question paper is divided into five sections : A, B, C, D and E.
- Section A contains very short answer type question carrying 1 mark each. Question numbers 1 to 12 are MCQ type and Question numbers 13 to 16 are Assertion (A) – Reason (R) type.
- Section B contains short answer type questions, (Question numbers 17 to 21), carrying 2 marks each.
- Section C contains short answer type question, (Question numbers 22 to 28), carrying 3 marks each.
- Section D contains Case Base questions, (Question numbers 29 and 30), carrying 4 marks each.
- Section E contains long answer type question, (Question numbers 31 to 33), carrying 5 marks each.
- There is no overall choice. However, internal choices have been provided in Section B, C, D and E.
- Use of Log tables and calculators is not allowed.

SECTION – A

- Law of multiple proportions is illustrated by which one of the following pairs?  
(a)  $\text{H}_2\text{S}$  &  $\text{SO}_2$  (b)  $\text{NH}_3$  &  $\text{NO}_2$  (c)  $\text{Na}_2\text{S}$  &  $\text{Na}_2\text{O}$  (d)  $\text{N}_2\text{O}$  and  $\text{NO}$  (01)
- Which of the following is a disproportionation reaction ?  
(a)  $2\text{KMnO}_4 \rightarrow \text{K}_2\text{MnO}_4 + \text{MnO}_2 + \text{O}_2$  (b)  $2\text{CuBr} \rightarrow \text{CuBr}_2 + \text{Cu}$   
(c)  $2\text{NaBr} + \text{Cl}_2 \rightarrow 2\text{NaCl} + \text{Br}_2$  (d)  $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$  (01)
- For Principal quantum number,  $n=4$  the total number of orbitals having  $l = 3$  is :  
(a) 3 (b) 7 (c) 5 (d) 9
- Electron gain enthalpy is positive when  
(a)  $\text{O}^-$  changes into  $\text{O}^{2-}$  (b)  $\text{O}$  changes into  $\text{O}^+$   
(c)  $\text{O}$  changes into  $\text{O}^-$  (d) Electro gain enthalpy is always negative (01)
- Which of the following has maximum number of atoms?  
(a) 24 g of C (12) (b) 56 g of Fe (56) (c) 27 g of Al (27) (d) 108 g of Ag (108)
- The value of  $x$  and  $y$  in the following redox reaction is :  
$$x\text{Cl}_2 + 60\text{H}^- \rightarrow \text{ClO}_3^- + y\text{Cl}^- + 3\text{H}_2\text{O}$$
  
(a)  $x = 2, y = 4$  (b)  $x = 5, y = 3$  (c)  $x = 3, y = 5$  (d)  $x = 4, y = 2$  (01)
- Which of the following has largest de-Broglie's wavelength, provided all have equal velocity?  
(a)  $\text{CO}_2$  molecule (b) electron (c)  $\text{NH}_3$  molecule (d) proton
- The pair of ions having same electronic configuration is (atomic numbers of Sc=21, Cr=24, Mn=25, Fe=26)  
(a)  $\text{Cr}^{3+}$ ,  $\text{Fe}^{3+}$  (b)  $\text{Fe}^{3+}$ ,  $\text{Mn}^{2+}$  (c)  $\text{Fe}^{3+}$ ,  $\text{Co}^{3+}$  (d)  $\text{Sc}^{3+}$ ,  $\text{Cr}^{3+}$  (01)
- In the following, the element with highest ionization enthalpy is :  
(a)  $[\text{Ne}] 3s^2 3p^1$  (b)  $[\text{Ne}] 3s^2 3p^3$  (c)  $[\text{Ne}] 3s^2 3p^2$  (d)  $[\text{Ne}] 3s^2 3p^4$  (01)
- Which of the following contain only ionic bonds?  
(a)  $\text{CCl}_4$  (b)  $\text{NaCl}$  (c)  $\text{H}_2\text{O}$  (d)  $\text{NH}_4\text{Cl}$  (01)
- Among the following the temperature dependant parameter is  
(a) molality (b) mole fraction (c) molarity (d) mass percentage
- Which shell would be the first to have a g sub-shell?  
(a)  $4^{\text{th}}$  (b)  $5^{\text{th}}$  (c)  $6^{\text{th}}$  (d)  $7^{\text{th}}$  (01)
- In the following question numbers 13 to 16, a statement of Assertion (A) followed by a statement of Reason (R) is given. Choose the correct option out of the choices given below :  
(a) (A) and (R) both are correct but (R) is correct explanation of (A).  
(b) (A) and (R) both are correct but (R) is not correct explanation of (A).  
(c) (A) is true but (R) is false.  
(d) (A) is false but (R) true.
- Assertion (A) :** The amount of product formed in any reaction depends upon the amount of limiting reagent.  
**Reason (R) :** Limiting reagent is consumed completely in the reaction. (01)
- Assertion (A) :** The oxidation state of Cr in  $\text{CrO}_5$  is +10 .  
**Reason (R) :** The oxidation state of Cr can not be more than 6 since the electronic configuration of Cr is  $[\text{Ar}] 3d^5 4s^1$ . (01)
- Assertion (A) :** The  $19^{\text{th}}$  electron in K atom enters into 4s orbital and not the 3d orbital.  
**Reason (R) :**  $(n + l)$  rule is followed for determining the orbital of lowest energy state. (01)
- Assertion (A) :** Atomic mass of Sodium is 23 u.  
**Reason (R) :** An atom of sodium is 23 times heavier than one atom of Carbon -12 isotope. (01)

**SECTION : B**

17. Find out the oxidation state of underlined elements in the following molecule : (02)  
 (a) NaBH<sub>4</sub>                      (b) NaH2PO<sub>4</sub>

**OR**

Identify the oxidant and reluctant in the following redox reaction :



18. Yellow light emitted from a sodium lamp has wavelength of 580 nm. Calculate the frequency of the yellow light (1 nm = 10<sup>-9</sup> m). (02)
19. Which out of F and Cl would have a more negative electron gain enthalpy and why? (02)
20. Answer the following questions : (02)  
 (a) Identify an element with 4 electrons in the outermost shell.  
 (b) Helium has the highest first ionization enthalpy in the periodic table, true or false?  
 (c) Which group of the periodic table has a non-metal which is liquid at room temperature?  
 (d) How atomic radius vary with respect to the effective nuclear charge?
21. Which of the following species do not show disproportionation reaction and why? (02)  
 ClO<sup>-</sup>, ClO<sub>2</sub><sup>-</sup>, ClO<sub>3</sub><sup>-</sup>, ClO<sub>4</sub><sup>-</sup>

**SECTION : C**

22. Balance the following redox reaction in acidic medium by ion – electron method : (03)  
 $\text{H}_2\text{O}_2(\text{aq}) + \text{Fe}^{2+}(\text{aq}) \rightarrow \text{Fe}^{3+}(\text{aq}) + \text{H}_2\text{O}(l)$
23. Dinitrogen and dihydrogen react with each other to produce NH<sub>3</sub> according to the equation: (03)  
 $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3$   
 (i) Calculate the mass of NH<sub>3</sub> produced, if 2x10<sup>3</sup> g N<sub>2</sub> reacts with 1x10<sup>3</sup> g of H<sub>2</sub>.  
 (ii) Will any of the two reactants remain unreacted?  
 (iii) If yes, which one and what would be its mass?
- 24 (a) What IUPAC name and symbol of element with atomic number 127. (03)  
 (b) Why do elements in the same group have similar physical and chemical properties?  
 (c) Aluminium atom loses electrons successively to form Al<sup>+</sup>, Al<sup>2+</sup> and Al<sup>3+</sup> ions. Which step will have highest ionization enthalpy?

**OR**

- (a) In terms of period and group, where would you locate the elements with atomic number 114?  
 (b) The radius of Na<sup>+</sup> ion is less than that of Na atom. Give reasons.  
 (c) Write general electronic configuration of d-block element.
- 25 (a) Although geometries of both ammonia and water are distorted tetrahedral, bond angle in water is less than that of ammonia. Discuss. (03)  
 (b) The electronic configuration of 4 neutral atoms A, B, C, D are :  
 $\text{A} \rightarrow 1s^2 2s^2 2p^6 3s^2$ ,  $\text{B} \rightarrow 1s^2 2s^2 2p^6, 3s^2$      $\text{C} \rightarrow 1s^2 2s^2 2p^1$      $\text{D} \rightarrow 1s^2 2s^2 2p^5$ .  
 Predict the formula of ionic compounds between  
 (i) A & D    (ii) B & D
26. Arrange the following as per the property mentioned against them : (03)  
 (a) S, Mg, Si, P, Al (increasing order of first ionization enthalpy)  
 (b) Li<sup>2+</sup>, He<sup>+</sup>, Be<sup>3+</sup> (decreasing ionic radius)  
 (c) Si, Be, Na, P, Mg (decreasing metallic character)
27. (a) State Avagadro's Law. (03)  
 (b) A sample of drinking water was found to be severely contaminated with chloroform, CHCl<sub>3</sub> supposed to be carcinogenic. The level of contamination was 15 ppm (by mass). Express this in percent by mass.
28. Predict the shapes of following molecules using VSEPR model : (Write only names). (03)  
 (a) SF<sub>4</sub>    (b) XeF<sub>4</sub>    (c) BrF<sub>5</sub>

**SECTION : D**

29. According to electromagnetic wave theory proposed by Maxwell, all radiations travel with the velocity of light in the form of waves and are associated with electric and magnetic fields. The energy is emitted continuously from any source. Some important characteristics of waves are its wavelength, frequency, wave number, amplitude, time period and velocity. This theory has limitations that it failed to explain black body radiation and photoelectric effect. Plank's quantum theory overcame these limitations. Consequently, light was said to have dual nature. Further the electronic energy is quantised which was followed from the study of emission and absorption spectrum.

Based on the above paragraph, answer the following questions :

- (a) Write one basic difference between electromagnetic wave theory and Plank's quantum theory.

**OR**

What do you mean by Photoelectric effect?

- (b) Which series of lines of H-spectrum lie in the uv region?  
 (c) What is the wave number of the light emitted when the electron in a hydrogen atom undergoes transition from an energy level with n=4 to an energy level with n=2.

30. The combination of different atoms is governed by basic laws of chemical combination. The quantitative study of the reactants required or the products formed is called Stoichiometry. The amount of substance present in given volume of a solution is expressed in number of ways like mass percent, mole fraction, molarity and molality. (04)

Based on the above paragraph, answer the following questions :

- (a) State law of definite/constant proportion.  
 (b) How are 0.50 moles of  $\text{Na}_2\text{CO}_3$  and 0.50 M of  $\text{Na}_2\text{CO}_3$  different?

**OR**

Calculate the number of molecules of ethane in 3 moles of ethane.

- (c) Calculate the molarity of NaOH in the solution prepared by dissolving its 4 g in enough water to form 250 ml of the solution.

### SECTION : E

31. Answer any five questions among the following questions : (05)

- (a) Arrange the following molecules in increasing order to bond angle :  $\text{BeCl}_2$ ,  $\text{CH}_4$ ,  $\text{BF}_3$  and  $\text{H}_2\text{O}$ .  
 (b) The electronic configuration of two elements, X and Y are given as :

$$\text{X} = 1s^2, 2s^2 2p^6, 3s^2 3p^6, 4s^2$$

$$\text{Y} = 1s^2, 2s^2 2p^6, 3s^2 3p^5$$

Predict the formula of the ionic compound formed between them.

- (c) Why axial bonds are longer than equatorial bonds in  $\text{PCl}_5$  molecules?  
 (d) In terms of ionization enthalpy and electron gain enthalpy what type of elements combine to form stable ionic compounds?  
 (e) How many lone pair – lone pair and bond pair-bond pair electron repulsions are there in  $\text{ClF}_3$  molecule.  
 (f) Write two important significance of Lewis symbol.  
 (g) On the basis of VSEPR theory explain why  $\text{SO}_2$  molecule has a bent geometry?

- 32 (a) Why Pauli's exclusion principle is called Exclusion Principle? (1+1+1+2=05)

- (b) How many electrons in sulphur (at. No. = 16) can have  $(n + l) = 3$ ?  
 (c) Which out of  $\text{Fe}^{2+}$  and  $\text{Cr}^{3+}$  has higher paramagnetism?  
 (d) The threshold frequency ( $\nu_0$ ) for a metal is  $7 \times 10^{11} \text{ s}^{-1}$ . Calculate the kinetic energy of an electron emitted when radiation of frequency  $\nu = 1 \times 10^{15} \text{ s}^{-1}$  hits the metal. ( $h = 6.626 \times 10^{-34} \text{ Js}$ )

**OR**

- (a) Why Hund's rule is called rule of maximum multiplicity?  
 (b) If  $n=5$ , how many electrons can have  $m = +1$ ?  
 (c) What will be the values of  $n_1$  and  $n_2$  for the line of longest wavelength in Balmer series.  
 (d) A microscope using suitable photons is employed to locate an electron in an atom within a distance of  $0.1 \text{ \AA}$ . What is the uncertainty involved in the measurement of its velocity? ( $h = 6.626 \times 10^{-34} \text{ Js}$ )

- 33 (a) Justify the reaction  $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$  to be a redox reaction. (2+1+1+1=05)

- (b) Consider the following decomposition reactions :  $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$  and  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ , which one of these is a redox reaction and why?  
 (c) Arrange the following in increasing oxidation states of Phosphorus:  
 $\text{HPO}_3^{2-}$ ,  $\text{PO}_4^{3-}$ ,  $\text{PH}_3$   
 (d) Write one basic difference between valency and oxidation number.

**OR**

- (a) Justify the reaction  $2\text{Mn}^{3+} + 2\text{H}_2\text{O} \rightarrow \text{MnO}_2 + \text{Mn}^{2+} + 4\text{H}^+$  to be a disproportionation reaction.  
 (b) Out of the following two displacement reactions, which one is a redox reaction and why :  
 $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$  and  $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{HCl}$   
 (c) Arrange the following radicals in increasing oxidation number of the central atom :  
 $\text{CrO}_4^{2-}$ ,  $\text{CrO}_2$ ,  $\text{MnO}_4^-$ ,  $\text{ClO}_3^-$   
 (d) Write the basic difference between an oxidant and a reductant.

**DELHI PUBLIC SCHOOL, BHILAI****MIDTERM EXAMINATION, 2023****DATE : 27-09-2023****Time : 3 Hours****CLASS : XI****BIOLOGY****M.M : 70****General Instructions :**

- 1) All questions are compulsory.
- 2) The question paper has 5 sections and 33 questions. All questions are compulsory.
- 3) Section A has 16 questions of 1 mark each; Section B has 5 questions of 2 marks each; Section C has 7 questions of 3 marks each; Section D has 2 case-based questions of 4 marks each; and Section E has 3 questions of 5 marks each.
- 4) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- 5) Wherever necessary, neat and properly labelled diagram should be drawn.

**SECTION A**

- 1) Group of individual organism with fundamental similarities : (1)  
(a) Genus (b) Species (c) Family (d) Phylum
- 2) The carotenoid pigments present in chloroplast are (1)  
(a) Fat soluble (b) Water soluble (c) Water and Fat soluble (d) None of these
- 3) The first organism to colonise rocks are (1)  
(a) Moss and lichens (b) Volvox and Fucus  
(c) Gelidium and Porphyra (d) Fucus and Fern
- 4) An economically important insect is (1)  
(a) Locust (b) Aedes (c) Bombyx (d) Limulus
- 5) The enzyme involved during crossing over in meiotic cell division (1)  
(a) Endonuclease (b) Recombinase (c) Polymerase (d) Lyases
- 6) The trans face of golgi apparatus is (1)  
(a) Concave (b) Convex (c) Biconcave (d) Biconvex
- 7) The storage food found in class Rhodophyceae (1)  
(a) Mannitol (b) Laminarin (c) Floridean starch (d) Starch
- 8) The excretory organs of Platyhelminthes are (1)  
(a) Nephridia (b) Nephrons (c) Flame cells (d) Malpighian tubules
- 9) The given plant belongs to (1)  
  
(a) Fungi (b) Pteridophyta (c) Algae (d) Bryophyte
- 10) The middle lamellae of plant cell wall is made up of (1)  
(a) Calcium phosphate (b) Calcium pectate (c) Calcium carbonate (d) Calcium acetate
- 11) Dikaryophase in the life cycle occurs in the fungi belonging to the class (1)  
(a) Ascomycetes and Phycomycetes (b) Basidiomycetes and Deuteromycetes  
(c) Phycomycetes and Basidiomycetes (d) Basidiomycetes and Ascomycetes
- 12) Which of the following phyla has no fresh water animals (1)  
(a) Chordata (b) Mollusca (c) Arthropoda (d) Echinodermata

Question No. 13 to 16 consists of two statements – Assertion (A) and Reason (R)

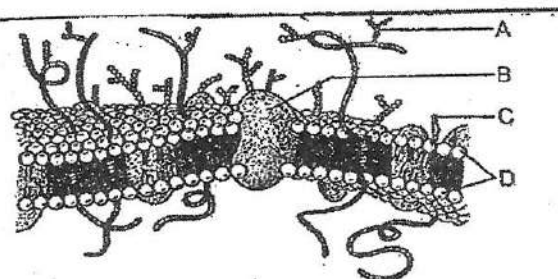
Answer these questions selecting the appropriate option given below :

- (A) Both A and R are true and R is the correct explanation of A
  - (B) Both A and R are true and R is not the correct explanation of A.
  - (C) A is true but R is false.
  - (D) A is False but R is true.
- 13) Assertion A : Heterocyst is covered by a thick layer of mucilage (1)  
Reason R : Its wall is impermeable to oxygen

- 14) Assertion A : Digested and semidigested food is absorbed by body surface in tapeworm. (1)  
Reason R : Digestive organs are absent in tape worm.
- 15) Assertion A : Structural homology provide information among common lineage. (1)  
Reason R : Molecular homology is useful in distinguishing various taxa
- 16) Assertion A : The content of nucleolus is continuous with the rest of the nucleoplasm. (1)  
Reason R : There is no membrane boundary for nucleolus.

#### SECTION B

- 17) Expand PPLO. State any two features of it. (2)
- 18) What is metagenesis. Mention an example which exhibit this phenomenon? (2)
- 19) (2)

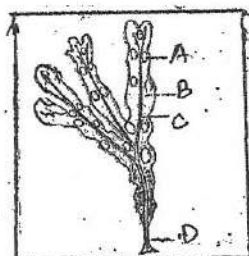


Identify the part of the cell given in the figure. Label A,B,C and D. Write a function of it.

- 20) Write two unique features of Euglenoids and Dinoflagellates (2)  
(OR)  
How do slime mould survive under favourable and unfavourable conditions.
- 21) Cycas and Pinus are gymnosperms. Write two distinguishing features of it. (2)

#### SECTION C

- 22) What is mesosome? State any four functions of it. (3)
- 23) Prophase I of Meiosis is very important. Name the different stages of it. Explain the event taking place in the second stage and third stage of it. (3)
- 24) What is coelom? Explain diagrammatically pseudocoelomate and coelomate conditions among animals. (3)
- 25) Identify the following plant. Label A,B,C and D. (3)  
Write the function of D.  
How do they reproduce asexually.

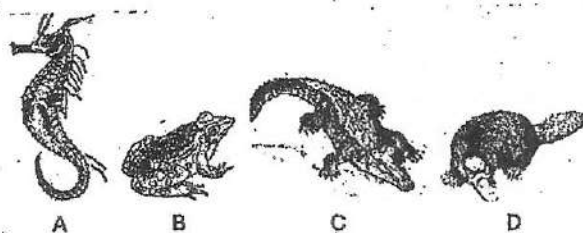


- 26) Name the different types of plastids. State the function of each type. (3)
- 27) Ascospore and conidia both are produced by Ascomycetes. How do they differ from each other? (3)  
(OR)  
Give the difference between Zygospor and Zoospore belonging to fungi phycomycetes.
- 28) Write the scientific name of Mango. Illustrate the taxonomical hierarchy of Mango. (3)

#### SECTION D

Question no. 29 and 30 are case based questions. Each question has subparts with internal choice in one subpart.

29)



Observe the picture showing some vertebrates and answer the following questions.

- (i) Identify the animal(s) with  
(a) Two-chambered heart  
(b) Three-chambered heart  
(c) Four-chambered heart

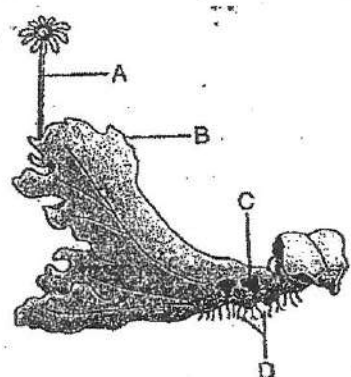
- (ii) Which among them show(s) external fertilization?  
 (iii) Select one animal each that shows  
 (a) Direct development (b) Indirect development

(OR)

How does B differ from C in its external morphology?

30) Observe the diagram and answer the questions that follow :

(4)

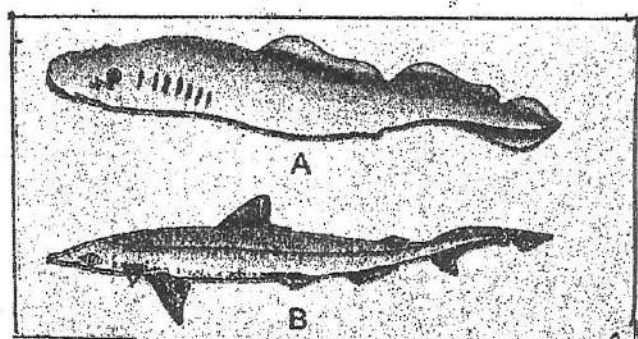


- (a) Identify the plant given and name the division, it belongs to  
 (b) Label the parts A, B, C and D marked on it.  
 (c) Give a brief description of part C.  
 (d) Give a brief description of A.

(OR)

### SECTION E

31)



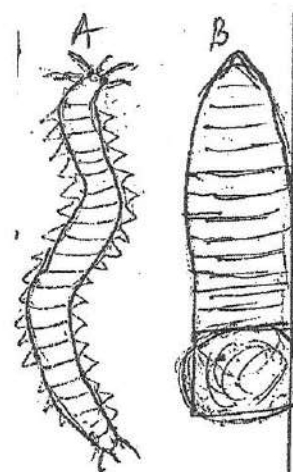
(5)

- (a) Identify the animal A and B given in the above figure.  
 (b) Name the class to which each of them belong to.  
 (c) Write four differences between the two classes to which they belong.

(OR)

- (a) Identify and write the scientific name of the animal A and B.  
 (b) Write two major difference between them.  
 (c) What is the mode of nutrition of B.  
 (d) To which phylum do they belong.

Write two features of the phylum.



32) (a) Draw a well labeled diagram of nucleus.

(b) State the function of nucleus.

(c) What does chromatin material contain?

(d) What does kinetochore and centromere represent in a chromosome?

(5)

(OR)

(a) Draw a well labeled diagram of the organelle that are the sites of aerobic respiration.

(b) Explain the structure of the organelle.

(c) How do they divide?

33) Name the different stages seen in the interphase of mitotic division.

Explain the events of each stage of interphase.

(5)

(OR)

Why is mitosis called equational division? How do Anaphase of mitosis differ from Anaphase I of meiosis with the help of diagram.

**General Instructions :**

- 1) All questions are compulsory.
- 2) The question paper has 5 sections and 33 questions.
- 3) Section A has 16 questions of 1 mark each
- 4) Section B has 5 questions of 2 marks each
- 5) Section C has 7 questions of 3 marks each
- 6) Section D has 2 case-based questions of 4 marks each and
- 7) Section E has 3 questions of 5 marks each.

**SECTION A**

- 1) A major signaling molecule in nervous and circulatory system is : (1)  
(a) Nitrous oxide (b) Nitric oxide (c) Nitrogen (d) Sulphur dioxide
- 2) The microbial cell that is used to produce insulin. (1)  
(a) Yeast (b) E.Coli (c) (ii) Streptococcus (d) Lactobacillus
- 3) The bond between monomers in a polysaccharide is a/an (1)  
(a) Glycosidic bond (b) Phosphodiester bond  
(c) Peptide bond (d) Ester bond
- 4) The carbon that carries aldehyde or ketone group in a carbohydrate is (1)  
(a) Anomeric carbon (b) Ketonic carbon (c) Aldehyde carbon (d) None of these
- 5) Embryos and seeds that are developed without fertilization is called : (1)  
(a) Apomixis (b) Syngamy (c) Parthenocarpy (d) Isogamy
- 6) Macrophages present in liver are called (1)  
(a) Kupffer cells (b) Alveolar cells (c) Peritoneal cells (d) Basophil cells



- 7) The blood cell given above is : (1)  
(a) Eosinophyll (b) Basophil (c) Monocytes (d) Lymphocytes
- 8) 70s ribosome in eukaryotes is present in (1)  
(a) Nucleus (b) Lysosome (c) Mitochondria (d) peroxisome
- 9) The tissue macrophages are called as (1)  
(a) Alveolar cells (b) Peritoneal cells (c) Monocytes (d) Histocytes
- 10) Maltose is a (1)  
(a) Monosaccharide (b) Disaccharide (c) Polysaccharide (d) Oligosaccharide
- 11) Lactobacillus is a (1)  
(a) Rod shaped bacteria (b) Coma shaped bacteria  
(c) Spiral shaped bacteria (d) Spherical shaped bacteria
- 12) The pollen tube enters the embryo sac through (1)  
(a) Outer integument (b) Nucellus (c) Micropyle (d) None of these

In Assertion (A) and Reasons (R), you have to choose correct option amongst the followings options :

- (A) Both A and R are true and R is the correct explanation of A
- (B) Both A and R are true and R is not the correct explanation of A.
- (C) A is true but R is false.
- (D) A is false but R is true.

- 13) Assertion A : Active transport occurs with the help of carrier proteins (1)  
Reason R : Energy required for active transport is obtained from ATP.

- 14) Assertion A : Neutrophils have multi lobed nucleus and granules in the cytoplasm. (1)  
Reason R : Neutrophils are called granulocytes.
- 15) Assertion A : For successful fermentation aseptic operation is the key required. (1)  
Reason R : Growth medium should be sterile before inoculum.
- 16) Assertion A : Carbohydrates are most suitable for the production of energy in the body. (1)  
Reason R : Carbohydrates can be stored in the tissues as glycogen and can be used for the production of energy whenever required.

#### SECTION B

- 17) What is meant by clonal propagation. State two examples of it. (2)
- 18) State the difference between reducing and non reducing sugars. Name the test used in pathological labs to ascertain the presence of sugar in blood/urine. (2)
- 19) State any four functions of membrane proteins. (2)
- 20) In Tay-Sach's disease which organ is affected? Write the cause of it. (2)
- 21) What is the role of nucleolus and centromere in the nucleus of an eukaryotic cell. (2)

(OR)

What are components present in the following :

- a) Secondary cell wall of eukaryotes.  
b) Cell wall of fungi.

State the function of plasmodesmata

#### SECTION C

- 22) What are epimers? Write the Haworth structure of  $\alpha$ -D Glucose and Lactose. (3)
- 23) Write the function of following in a fermenter. (3)  
(a) Water (b) Temperature control system (c) Baffles
- 24) Draw a well labeled diagram of an immunoglobulin molecule. (3)
- 25) Classify carbohydrates. Explain each with the help of an example (3)
- 26) Write the structure and function of the following : (3)  
(a) Peroxisomes (b) Lysosome.

(OR)

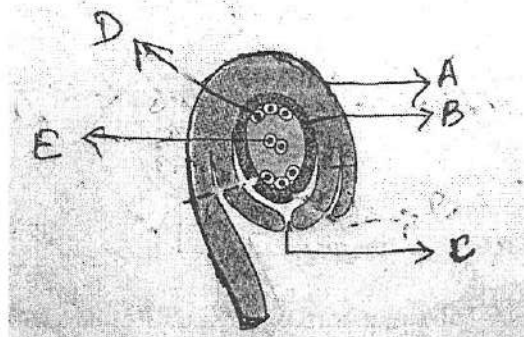
Explain the role of glycocalyx in bacteria.

- 27) Name the cells used to produce the following (3)  
(a) Insulin (b) Hepatitis B Vaccine (c) Interferons (d) Monoclonal antibodies  
(e) Erythropoietin (EPO) (f) Somatostatin
- 28) What are glycoconjugates? Explain the different types of it. (3)

#### SECTION D

Question no. 29 and 30 are case based questions. Each question has subparts with internal choice in one subpart.

- 29) (4)



- a) Name the part of the flower given and label A,B,C,D and E.  
b) State the function of synergids.  
c) What is the function of endosperm.

(OR)

What is triple fusion.

30)



(4)

- Name the organelle given and label A and B.
- What are the two biomolecules produced by the above organelle.
- What are the two faces of the given organelle and write its function.

(OR)

Write two functions of the organelle.

### SECTION E

31) Write the application of biotechnology in the field of

(5)

- Health care
- Agriculture
- Paper Industry

(OR)

What is genetic recombination?

Explain how do genetic recombination take place in bacteria.

32) With the help of diagram explain the process of signal transduction.

(5)

(OR)

With the help of flow sheet diagram explain the process of immune response taking place in human beings.

33) Explain the events taking place in each stage of interphase.

(5)

(OR)

Explain prophase I of meiotic division.

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**General Instructions :**

01. This question paper contains 5 sections - A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
02. Section A has 18 MCQ's and 2 Assertion – Reason based questions of 1 mark each.
03. Section B has 5 very short answer type questions of 2 marks each.
04. Section C has 6 short answer type questions of 3 marks each.
05. Section D has 4 long answer type questions of 5 marks each.
06. Section E has 3 source based/case based/passages based/integrated units of assessment of 4 marks each with sub parts.

**Section – A**  
**(Multiple Choice Questions)**  
**(Each question carries 1 mark)**

01. The number of ways to arrange the letters of the word CHEESE are  
(a) 120 (b) 240 (c) 720 (d) 60
02. Let  $A = \{x : x \in R, x > 4\}$  and  $B = \{x \in R : x < 5\}$ , then  $A \cap B$  is  
(a)  $(4, 5]$  (b)  $(4, 5)$  (c)  $[4, 5)$  (d)  $[4, 5]$
03. The length of an arc of a circle of radius 5 cm subtending a central angle measuring  $15^\circ$  is  
(a)  $\frac{7\pi}{12}$  (b)  $\frac{5\pi}{12}$  (c)  $\frac{\pi}{12}$  (d)  $\frac{11\pi}{12}$
04. If  $A \cap B = B$ , then  
(a)  $ACB$  (b)  $BCA$  (c)  $A = \emptyset$  (d)  $B = \emptyset$
05. Given that  $x, y$  and  $b$  are real numbers and  $x < y, b > 0$ , then  
(a)  $\frac{x}{b} < \frac{y}{b}$  (b)  $\frac{x}{b} \leq \frac{y}{b}$  (c)  $\frac{x}{b} > \frac{y}{b}$  (d)  $\frac{x}{b} \geq \frac{y}{b}$
06. If  $f(x) = 4x - x^2, x \in R$ , then the value of  $f(a+1) - f(a-1)$  is  
(a)  $4(2-a)$  (b)  $8-a$  (c)  $4-3a$  (d)  $8-3a$
07. In  ${}^nC_7 = {}^nC_4$ , then the value of  $n$  is  
(a) 10 (b) 11 (c) 12 (d) 13
08. The value of  $(\sqrt{-2})(\sqrt{-3})$  is equal to  
(a)  $\sqrt{6}$  (b)  $-\sqrt{6}$  (c)  $i\sqrt{6}$  (d) none of these
09. If  $\cos A = \frac{4}{5}, \cos B = \frac{12}{13}, \frac{3\pi}{2} < A, B < 2\pi$  then the value of  $\cos(A+B)$  is  
(a)  $\frac{33}{56}$  (b)  $\frac{56}{33}$  (c)  $\frac{33}{65}$  (d)  $\frac{65}{33}$
10. The solution of the inequation  $\frac{1}{x-2} < 0$  is  
(a)  $(-\infty, -2)$  (b)  $(2, \infty)$  (c)  $(-\infty, 2)$  (d)  $(-\infty, -\infty)$
11. The range of the function  $f(x) = \frac{x+2}{|x+2|}, x \neq -2$  is  
(a)  $\{-1, 1\}$  (b)  $\{-1, 0, 1\}$  (c)  $\{1\}$  (d)  $(0, \infty)$
12. If  $x < 7$ , then  
(a)  $-x < -7$  (b)  $-x \leq -7$  (c)  $-x > -7$  (d)  $-x \geq -7$
13. If  $(i+i)(1+2i)(1+3i) \dots (1+in) = a+ib$ , then  $2 \times 5 \times 10 \times \dots \times (1+n^2)$  is equal to  
(a)  $\sqrt{a^2+b^2}$  (b)  $\sqrt{a^2-b^2}$  (c)  $a^2+b^2$  (d)  $a+b$
14. The set of values of  $x$  for which the functions  $f(x) = 3x^2 - 1$  and  $g(x) = 3 + x$  are equal is  
(a)  $\{-1, \frac{4}{3}\}$  (b)  $\{-1, -\frac{4}{3}\}$  (c)  $\{-1, -4\}$  (d)  $\{-1, 3\}$
15. If  $z = \left(\frac{1+i}{1-i}\right)^4$ , then the value of  $z^4$  is  
(a)  $i$  (b)  $-i$  (c)  $1$  (d)  $-1$
16. The number of terms in the expansion of  $(2 + \sqrt{3}x)^{10} + (2 - \sqrt{3}x)^{10}$  is  
(a) 11 (b) 10 (c) 6 (d) 5

17.  $\cos 35^\circ + \cos 85^\circ + \cos 155^\circ$  is  
 (a) 0 (b)  $\frac{1}{\sqrt{3}}$  (c)  $\frac{1}{\sqrt{2}}$  (d)  $\cos 275^\circ$
18. The ratio of the second and third term in the expansion of  $(a+b)^n$  is  
 (a)  $\frac{b(n-1)}{2a}$  (b)  $\frac{(n-1)}{2ab}$  (c)  $\frac{2ab}{n-1}$  (d)  $\frac{2a}{b(n-1)}$

### Assertion – Reason Based Questions

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).  
 (b) Both (A) and (R) are true but (R) is not the correct explanation of (A).  
 (c) (A) is true but (R) is false.  
 (d) (A) is false but (A) is true

19. **Assertion (A) :** If  $A \subset B$  for any two sets A and B



Then the above Venn diagram represents correct relationship between A and B.

**Reason (R) :** If  $A \subset B$ , then all elements of A are also in B.

20. **Assertion (A) :** The expansion of  $(1+x)^n = C_0 + C_1x + C_2x^2 + \dots + C_nx^n$

**Reason (R) :** If  $x = -1$ , then the value of above expansion is zero.

### Section – B

(This section comprises very short answer type questions of 2 marks each)

21. If  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$ ,  $A = \{2, 4, 6, 8\}$ ,  $B = \{2, 3, 5, 7\}$  then verify  $(A \cup B)' = A' \cap B'$
22. Let  $f$  be the subset of  $Z \times Z$  defined by  $f = \{(a, a+b) : a, b \in Z\}$ . Is  $f$  a function from  $Z$  to  $Z$ ? Justify your answer.
23. Find all pairs of consecutive even positive integers both of which are larger than 5 such that their sum is less than 23.

OR

Solve the following system of inequations :

$$\frac{5x}{4} + \frac{3x}{8} > \frac{39}{8}$$

24. If  $\frac{x-1}{3+i} + \frac{y-1}{3-i} = i$ , then find the values of  $x$  and  $y$ .

OR

If  $z_1, z_2$  are  $(1-i)$ ,  $(-2+4i)$  respectively, find  $\text{Im} \left( \frac{z_1 z_2}{z_1} \right)$

25. Prove that  $\frac{\cos 7x + \cos 5x}{\sin 7x - \sin 5x} = \cot x$

### Section : C

(This section comprises short answer type questions of 3 marks each)

26. In how many ways can the letters of the word PERMUTATIONS be arranged if the  
 (1) words start with P and end with S.  
 (2) vowels are all together.  
 (3) there are always 4 letters between P and S.
- OR
- Find the number of ways in which 5 boys and 5 girls be seated in a row so that  
 (1) no two girls may sit together.  
 (2) all the girls sit together and all the boys sit together.  
 (3) all the girls are never together.
27. Let A, B and C be any three sets such that  $A \cup B = A \cup C$  and  $A \cap B = A \cap C$ . Show that  $B = C$
28. Let R be a relation from N to N defined by  $R = \{(a, b) : a, b \in N \text{ and } a = b^2\}$ . Are the following true?  
 (1)  $(a, a) \in R$  for all  $a \in N$ .  
 (2)  $(a, b) \in R \Rightarrow (b, a) \in R$   
 (3)  $(a, b) \in R, (b, c) \in R \Rightarrow (a, c) \in R$ .

29. Find the domain and range of the real function  $f(x) = \sqrt{9-x^2}$

OR

Let  $f = \{(x, \frac{x^2}{1+x^2}) : x \in R\}$  be a function from R to R. Determine the domain and range of 'f'

30. If  $a \in N$  such that  $aN = \{ax : x \in N\}$ . Describe the set  $3N \cap 7N$  in set builder form.

**OR**

For any three sets A, B and C, prove by using properties of sets that

$$A - (B - C) = (A - B) \cup (A \cap C)$$

31. Using binomial theorem, expand  $\{(x + y)^5 + (x - y)^5\}$  and hence find the value of  $\{(\sqrt{2} + 1)^5 + (\sqrt{2} - 1)^5\}$

**Section : D**

(This section comprises long answer type questions of 5 marks each)

32. Prove that  $\tan 4x = \frac{4 \tan x (1 - \tan^2 x)}{1 - 6 \tan^2 x + \tan^4 x}$

**OR**

Prove that :  $\frac{\sec 8x - 1}{\sec 4x - 1} = \frac{\tan 8x}{\tan 2x}$

33. Find real values of  $x$  for which the following equality hold  
 $(x^4 + 2xi) - (3x^2 + iy) = (3 - 5i) + (1 + 2iy)$

**OR**

Prove that  $x^4 + 4 = (x + 1 + i)(x + 1 - i)(x - 1 + i)(x - 1 - i)$

34. A group consists of 4 girls and 7 boys. In how many ways can a team of 5 members be selected if the team has

- (1) no girl.
- (2) at least one boy and one girl.
- (3) at least 3 girls.

35. Expand using binomial theorem  $(3x^2 + 2a)^6$ .

**Section : E**

(This section comprises 3 Case Study/passage based questions of 4 marks each with sub part. The first two case study questions have three sub parts of 1, 1, and 2 marks respectively. The third case study question has two sub parts of 2 marks each.)

36. A class teacher of class XI writes three sets A, B and C and are such that  $A = \{1, 3, 5, 7, 9\}$   
 $B = \{2, 4, 6, 8\}$  and  $C = \{2, 3, 5, 7, 11\}$ . Answer the following which are based on above sets.

- (1) Write down the subsets of set B.
- (2) Find  $(A - B) \cup (B - C)$
- (3) Verify  $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$

**OR**

Verify  $A \cap (B - C) = (A \cap B) - (A \cap C)$

37. Function as a relation : A relation  $f$  from a non empty set A to a non empty set B is said to be a function, if element of set A has one and only one image in set B. In other words, we can say that a function  $f$  is a relation from a non empty set A to a non empty set B such that the domain of  $f$  is A and no two distinct ordered pairs in  $f$  have the same first element or component.

If  $f$  is a function from set A to a set B, then we write  $f: A \rightarrow B$  or  $A \xrightarrow{f} B$ , elements of A are called domain. Based on the above topic, answer the following questions.

- (1) If  $f(x) = x^2 + 2x - 5$ , then among  $f(1)$ ,  $f(2)$  and  $f(3)$  which one gives the maximum value.
- (2) If  $f(x) = (x - a)^2(x - b)^2$ , then find  $f(a + b)$ .
- (3) If  $f(x) = \frac{2x}{1+x^2}$ , show that  $f(\tan \theta) = \sin 2\theta$

**OR**

Find the domain of the function  $f(x) = \frac{2x-3}{x^2-3x+2}$ .

38. A beaker contains 640 litres of 8% solution of boric acid. This is to be diluted by adding a 2% boric acid solution to it. If  $x$  litres of 2% boric acid is added to the beaker, then answer the following questions:

What should be the value of  $x$  so that

- (1) the resulting mixture is to be more than 4% boric acid.
- (2) the resulting mixture is to be less than 6% boric acid.

**GENERAL INSTRUCTIONS:**

1. This Question paper contains - five sections A, B, C, D and E. Each section is compulsory. However, there is some internal choice in some questions.
2. Section A has 18 MCQ's and 02 Assertion Reason based questions of 1 mark each.
3. Section B has 5 Very Short Answer (VSA) questions of 2 marks each.
4. Section C has 6 Short Answer (SA) questions of 3 marks each.
5. Section D has 4 Long Answer (LA) questions of 5 marks each.
6. Section E has 3 source based/case based/passage based/integrated units of assessment (04 marks each) with sub parts.
7. Internal Choice is provided in 2 questions in Section-B, 2 questions in Section-C, 2 Questions in Section-D. You have to attempt only one alternative in all such questions.

**SECTION-A**

**(All Questions are compulsory. No internal choice is provided in this section)**

1. The decimal equivalent of the quotient of the binary numbers  $(1110101)_2 \div (1001)_2$  is  
a. 10      b. 11      c. 13      d. 14
2. If  $n(U) = 40$ ,  $n(A) = 25$  and  $n(B) = 20$ , then the greatest value of  $n(A \cup B)$  is  
a. 40      b. 50      c. 5      d. 10
3. In an A.P. if  $a_4 : a_7 = 2 : 3$ , then  $a_6 : a_8 = \dots$   
a. 1 : 2      b. 2 : 3      c. 3 : 4      d. 4 : 5
4. If  $\log(3x + 1) = 2$ , then the value of 'x' is  
a.  $\frac{1}{3}$       b. 99      c. 33      d.  $\frac{19}{3}$
5. If the  $n^{\text{th}}$  term of an A.P. is  $2n+1$ , then the sum of the first ten terms of this A.P. is  
a. 420      b. 100      c. 440      d. 120
6. If the ratio of the diameters of the two spheres is 5:3, then ratio of their volumes is  
a. 27:125      b. 9:25      c. 25:9      d. 125:27
7. Which of the following does not hold good for binary subtraction?  
a.  $1 - 0 = 1$       b.  $0 - 0 = 0$       c.  $0 - 1 = 1$       d.  $1 - 1 = 0$
8. The sum of an infinite G.P. 10, -8, 6, 4, ..... is  
a.  $\frac{50}{9}$       b.  $\frac{48}{9}$       c.  $\frac{42}{9}$       d.  $\frac{40}{9}$
9. Given  $R = \{(x, y) : x, y \in \mathbb{Z}, y = x - 3\}$ , then which of the following ordered pair belongs to R.  
a. (1,4)      b. (5,2)      c. (0,3)      d. (-4,1)
10. If  $f(x) = px + q$ , where 'p' and 'q' are integers and  $f(-1) = 1$  and  $f(2) = 13$ , then 'p' and 'q' are respectively  
a. 4, 5      b. -4, 5      c. -4, -5      d. 4, -5
11. Characteristic of  $\log 0.0003798$  is  
a. 3      b.  $\bar{3}$       c. 4      d.  $\bar{4}$
12. The number of integers from 100 to 500 that are divisible by 5 are  
a. 80      b. 81      c. 75      d. none of these
13. The average of 100 numbers is 50. If one of the numbers which was 50 is replaced by 150, the new average will be  
a. 50.5      b. 51      c. 51.5      d. 52
14. The sum of the binary numbers 101001 and 110110 is  
a. 111111      b. 1010100      c. 1000111      d. 1011111
15. Which of the following is a null set?  
a.  $\{x : x \in \mathbb{N}, 2x - 1 = 3\}$       b.  $\{x : x \in \mathbb{N}, x^2 < 20\}$   
c.  $\{x : x \text{ is an even prime number greater than } 2\}$       d.  $\{x : x \in \mathbb{I}, x \leq 7\}$
16. A cuboidal container has the capacity to hold 50 small boxes. If all the dimensions of the container are doubled, then the number of boxes of the same size that it can hold is  
a. 450      b. 400      c. 200      d. 800
17. Average of the first 10 prime numbers is  
a. 10      b. 12      c. 12.9      d. 10.9
18. If the mean of  $x_1, x_2$  is 7.5 and the mean of  $x_1, x_2, x_3$  is 8, then the value of  $x_3$  is  
a. 9      b. 8      c. 7.5      d. 6

### ASSERTION REASON BASED QUESTIONS

In the following questions, a statement of Assertion(A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices

- a. Both A and R are true and R is the correct explanation of A.
  - b. Both A and R are true and R is not the correct explanation of A.
  - c. A is true but R is false.
  - d. A is false but R is true.
19. **Assertion (A) :** For  $x = \pm 1$ , the numbers  $\frac{-2}{7}$ ,  $x$ ,  $\frac{-7}{2}$  are in G.P.  
**Reason (R) :** Three numbers are in G.P. if  $b^2 = ac$ .
  20. **Assertion (A):** The domain of the real function defined by  $f(x) = \sqrt{x-1}$  is  $R - \{1\}$ .  
**Reason (R) :** The range of the real function defined by  $f(x) = \sqrt{x-1}$  is  $[0, \infty)$ .

### SECTION – B

(All Questions are compulsory. In case of Internal Choice, attempt any one question only)

21. Subtract the binary number 1001010 from 1111110 and convert the answer to the decimal system.
22. The average marks of 15 students is 45. If average marks of first 8 students is 48 and that of last 8 students is 42, find the marks obtained by the 8<sup>th</sup> student.
23. If  $\log_3(x+1) - 1 = 3 + \log_3(x-1)$ , then find the value of 'x'.  
**OR**  
 A new machine costs ₹6,40,000. Its price depreciates at the rate of 10% per annum. What will be the price of the machine after 7 years?
24. Two finite sets have 'm' and 'k' elements. If the number of subsets of the first set is 112 more than the number of subsets of the second set, then find the values of 'm' and 'k'?  
**OR**  
 Represent the complement of the set  $\{x : x \in R \text{ and } 2x + 1 > 10\}$  on the number line.
25. Multiply the binary numbers 11010 and 111.

### Section – C

(This section comprises of short answer type questions (SA) of 3 marks each)

26. Let R be the relation on N defined by  
 $R = \{(a,b) : a \in N, b \in N \text{ and } a + 3b = 12\}$ , then  
 (i) List the elements of R.  
 (ii) Write down the domain of R.  
 (iii) Write down the range of R.
27. If  $U = \{x : x \in N \text{ and } 1 \leq x \leq 10\}$ ,  $A = \{x : x \in N \text{ and } 2 \leq x \leq 5\}$  and  $B = \{x : x \in N \text{ and } 5 \leq x \leq 8\}$ , verify if  
 (i)  $(A \cap B)' = A' \cup B'$   
 (ii)  $(A - B)' = U$
28. Solve for 'x':  $\log_2 x + \log_4 x + \log_{16} x = \frac{21}{4}$ .
29. Find the domain and range of the following functions:  
 (i)  $f(x) = \frac{x-3}{2x+1}$       (ii)  $f(x) = |x - 7|$
30. On the first day a music video, posted online, got 120 views. The number of viewership gets increased by 5% per day. How many total views did the video get over the course of the first 29 days?  
**OR**  
 The sum of first two terms of a G.P. is 36 and the product of the first term and third term is 9 times the second term. Find the sum of its first 8 terms.
31. The inner dimensions of a closed wooden box are 2m by 1.2m by 0.75m. The thickness of wood is 2.5cm. Find the cost of wood required to make the box if  $1\text{m}^3$  of wood costs ₹5400.  
**OR**  
 A wire is bent in the form of an equilateral triangle encloses an area of  $36\sqrt{3}\text{cm}^2$ . Find the area enclosed by the same wire when bent to form:  
 (a) a square and  
 (b) a rectangle whose length is 2cm more than its width.

### SECTION – D

(This section comprises of long answer type questions (LA) of 5 mark each)

32. In a group of 50 students, 17 play Cricket, 13 play Football, 15 play Hockey, 9 play Cricket and Football, 4 play Football and Hockey, 5 play Hockey and Cricket and 3 play all the three games. Find the number of students who play  
 (i) Only Hockey  
 (ii) Football and Hockey but not Cricket  
 (iii) None of the three games.

33. Evaluate using log tables  $\frac{(27.8)^{\frac{1}{2}}}{(0.0007)^{\frac{1}{4}}} \times (58.49)^{\frac{2}{3}}$ .

**OR**

Calculate the compound interest earned on ₹10000 for 10 years at the rate of 8% per annum compounded annually.

- 34 (i) If the sums of 'n' terms of two arithmetic progressions are in the ratio  $(3n + 8) : (7n + 15)$ , find the ratio of their 12<sup>th</sup> terms.  
 (ii) If  $a + b + c \neq 0$  and  $\frac{b+c}{a}, \frac{c+a}{b}, \frac{a+b}{c}$  are in A.P., prove that  $\frac{1}{a}, \frac{1}{b}, \frac{1}{c}$  are also in A.P.

**OR**

If a, b, c, d are in G.P., show that

- (i)  $a^2 + b^2, b^2 + c^2, c^2 + d^2$  are in G.P.  
 (ii)  $(b - c)^2 + (c - a)^2 + (d - b)^2 = (a - d)^2$
- 35 (a) If  $f(x) = \log\left(\frac{1+x}{1-x}\right)$ , then show that  $f(x) + f(y) = f\left(\frac{x+y}{1+xy}\right)$ .  
 (b) If  $f(x) = 2x + 5$  and  $g(x) = x^2 + 1$ , find  $f \circ g(x)$  and  $g \circ f(x)$ .

### SECTION – E

(This section comprises of 3 source based questions (Case Studies) of 4 mark each)

36. Father of Ashok is a builder. He planned a 12 storey building in Gurgaon. He bought a plot of  $50\text{m}^2$  at the rate of ₹1000 per  $\text{m}^2$ . The builder planned ground floor of height 5m, first floor of 4.75m and so on.



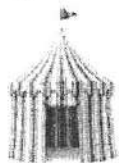
Based on the above information answer the following questions.

- (i) What is the height of the last floor?  
 (ii) Which floor has height of 3m?  
 (iii) What is the total height of the building?

**OR**

Which floor is half in height of the ground floor?

37. The circus tent is cylindrical to a height of 2.1m and conical above to a height of 26.1m.



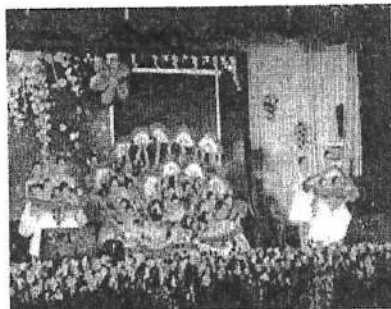
Based on the above information answer the following questions.

- (i) Find the CSA of the conical part.  
 (ii) Find the area of canvas used in the tent (in terms of  $\pi$ ).  
 (iii) Find the volume of air in the tent.

**OR**

If one person requires  $7.07\text{m}^3$  of air, then how many persons can be accommodated in the tent?

38. Our school organised Foundation Day with some cultural events. A total of 100 students participated, 15 students participated in dance, drama and singing, 25 participated in dance and drama, 20 students in drama and singing, 30 in dance and singing, 8 in dance only, 5 in drama only and 12 students in singing only.



Based on the above information answer the following questions

- (i) Find the number of students who participated in dance and drama but not in singing.  
 (ii) Find the number of students who did not participate in any of the events.



Date : 27.09.2023  
Class : XI

MIDTERM EXAMINATION-2023  
SUBJECT : ECONOMICS

Time : 3 Hrs.  
Max. Marks : 80

**GENERAL INSTRUCTIONS:**

- This question paper contains: Section - A (Statistics) and Section - B (Microeconomics).
- Each section carries 40 marks each.
- Question 1-10 and 18-27 carry 1 Mark each.
- Question 11-12 and 28-29 carry 3 Mark each to be answered in 60-80 words.
- Question 13-15 and 30-32 carry 4 Mark each to be answered in 80-100 words.
- Question 16-17 and 33-34 carry 6 Mark each to be answered in 100-150 words.

**SECTION - A [STATISTICS]**

- Q1. Mohan is employed in a multi-National company (MNC) as a marketing executive. He is a \_\_\_\_\_ (1)  
(i) Producer (ii) Consumer (iii) Service Provider (iv) Service Holder
- Q2. \_\_\_\_\_ method of investigation is suitable only when the respondents are educated. (1)  
(a) Direct personal investigation. (b) Indirect personal investigation.  
(c) Telephonic interview. (d) Mailing questionnaire
- Q.3 In \_\_\_\_\_ series, lower limit of the second class is same as the upper limit of the first class. (1)
- Q.4 Mid-point of a class interval is calculated as \_\_\_\_\_. (1)
- Q.5 Statement-I - Bar diagram is a diagram with no dimensions. (1)  
Statement - II - Diagrams are attractive and help to represent a complex data in simple form.
- Alternatives: -**  
(a) Statement - I is true and Statement - II is false.  
(b) Statement - I is false and Statement - II is true  
(c) Both Statement - I and II are true.  
(d) Both Statement - I and II are false.
- Q.6 Which of the following is not a part of a table? (1)  
(i) Title (ii) Headnotes (iii) Captions (iv) None of these
- Q.7 \_\_\_\_\_ are the headings of columns in the table. (1)
- Q.8 If mean of a series of 10 observations is 20, then \_\_\_\_\_ is the sum of observations. (1)
- Q.9 Frequency curve is formed by joining the mid-point of the top of all the bars in a histogram using \_\_\_\_\_. (1)
- Q.10. Read the following Assertion (A) and Reason (R) carefully and choose one of the following correct alternative given below. (1)  
Assertion (A) - Arithmetic mean cannot be calculated for a qualitative data.  
Reason (R) - Arithmetic mean gives more importance to higher items of a series.
- Alternatives:-**  
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)  
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)  
(c) Assertion (A) is true but Reason (R) is false.  
(d) Assertion (A) is false but Reason (R) is true.
- Q.11 An investigator has collected the required information by personal interview with the informants. What type of data will it be called? (Primary/Secondary). Explain its features. (3)

OR

Distinguish between census method and sample method of data collection.

Contd... 2

**Q.12** "Questionnaire is a statement which must be carefully drafted so as to derive necessary information from the units of population. "In the light of the statement, list any three qualities of a good questionnaire. (3)

**Q.13** Discuss the importance of statistics in Economics. (4)

**Q.14** Define Histogram. Prepare a Histogram for the following. (1+3=4)

| C.I | 10-20 | 20-40 | 40-60 | 60-100 | 100-140 | 140-200 |
|-----|-------|-------|-------|--------|---------|---------|
| F   | 20    | 40    | 80    | 20     | 40      | 30      |

OR

Define Classification. Mention any two main objectives of classification. Convert the given series into less than series.

| More Than | 20 | 40 | 60 | 80 | 100 |
|-----------|----|----|----|----|-----|
| C.F       | 20 | 17 | 15 | 12 | 0   |

**Q.15** From the data below, marks of 15 students in Economics test, prepare an exclusive frequency distribution series with class size of 5 and answer the following questions. (4)

|    |    |    |    |    |
|----|----|----|----|----|
| 10 | 12 | 30 | 35 | 32 |
| 4  | 14 | 18 | 20 | 22 |
| 6  | 10 | 9  | 30 | 29 |

- (i) Number of students who scored 15 and above.
- (ii) % of students who secured less than 10.
- (iii) % of students who secured less than 30.

**Q.16** What is a Pie Diagram? What are the steps in constructing a pie diagram for the following data. (1+2+3=6)

| Subject        | Accountancy | Business Studies | Economics |
|----------------|-------------|------------------|-----------|
| Marks Obtained | 20          | 30               | 50        |

**Q.17** Define mean. Give two properties of mean. Find the mean for the following data by using step-deviation method. (1+2+3=6)

| C.I | 100-200 | 200-300 | 300-400 | 400-500 | 500-600 |
|-----|---------|---------|---------|---------|---------|
| F.  | 10      | 18      | 12      | 20      | 40      |

OR

Write any three merits and three demerits of Arithmetic mean. Calculate mean for the following data using step-deviation method. (3+3=6)

| more than 10 | more than 20 | more than 30 | more than 40 | more than 50 |
|--------------|--------------|--------------|--------------|--------------|
| 30           | 22           | 18           | 12           | 5            |

### SECTION - B [MICROECONOMICS]

**Q.18** \_\_\_\_\_ is the next best foregone alternative. (1)

**Q.19** The problem of 'How to Produce' involves choice between consumer goods and capital goods. (True/False) (1)

**Q.20** Marginal utility concept is

- (i) Cardinal
- (ii) Ordinal
- (iii) Both i & ii
- (iv) None of these

Contd... 3

**Q.21** Read the following Assertion (A) and Reason (R) carefully and choose one of the following correct alternative given below. (1)

Assertion (A) – The indifference curve is convex to origin due to law of diminishing marginal Substitution (MRS).

Reason (R) – This is due to the operation of Law of DMU.

**Alternatives:-**

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
  - (b) Both Assertion (A) and Reason (R) are true and Reason (R) is not true explanation of Assertion (A)
  - (c) Assertion (A) is true but Reason (R) is false.
  - (d) Assertion (A) is false but Reason (R) is true.
- Q.22** If consumption of an additional unit of a commodity causes no change in TU, the MU is (1)
- (i) positive
  - (ii) negative
  - (iii) zero
  - (iv) constant
- Q.23** "Less is better" defines the concept of monotonic preferences. (True/False). Give reason. (1)
- Q.24** \_\_\_\_\_ implies the change in quantity demanded due to change in real income of the consumer. (1)
- (a) Substitute effect
  - (b) Income effect
  - (c) Law of demand
  - (d) None of these

**Q.25** Read the following Assertion (A) and Reason (R) carefully and choose one of the following correct alternative given below. (1)

Assertion (A) – Demand curve is vertical line parallel to Y-axis.

Reason (R) – There is no change in quantity demanded irrespective of change in price.

**Alternatives:-**

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
  - (b) Both Assertion (A) and Reason (R) are true and Reason (R) is not true explanation of Assertion (A)
  - (c) Assertion (A) is true but Reason (R) is false.
  - (d) Assertion (A) is false but Reason (R) is true.
- Q.26** When there is increase in price of substitute good, there is \_\_\_\_\_ of given goods. (1)
- (a) increase in demand
  - (b) decrease in demand
  - (c) rightward shift
  - (d) Both a and c
- Q.27** When demand curve is horizontal line parallel to X-axis, Ed is equal to \_\_\_\_\_. (1)
- Q.28** What will be effect of 10 percent rise in price of a good on its demand if price elasticity of demand is (1+1+1=3)
- (a) zero
  - (b) -1
  - (c) -2
- Q.29** Explain the relationship between TU and MU with the help of a diagram. (3)

**OR**

Define Budget line and Indifference curve. Explain why both are downward sloping.

**Q.30** Define and draw a well-labelled diagram of PP Curve. What does the rightward shift of PPC indicates? (4)

**OR**

Distinguish between positive economics and Normative Economics.

**Q.31** Explain the properties of Indifference Curve with the help of diagram. (4)

**Q.32** A consumer has total money income of Rs.250 to be spent on two goods 'X' and 'Y' with the price of Rs.25 and Rs.10 per unit respectively. On the basis of the information given, answer the following questions. (4)

- (a) Give the equation of the budget line for the consumer.
- (b) What is the value of slope of the budget line?
- (c) How many units can the consumer buy if he is to spend all his money on good 'X'.
- (d) How does the budget line change if there is a fall in prices of good 'Y'.

Contd... 4

Q.33 State the law of Demand with its assumptions, schedule and diagram.

(6)

OR

Read the provided text carefully and answer the following questions asked.

A consumer is an economic agent who uses goods and services for the direct satisfaction of his/her wants. Consumer consists of institution, individuals, or group of individuals or households. Consumer behaviour refers to the way in which consumers spent their income. If income rises, generally, people tend to buy more goods. More income would mean more pens, more shirts, more shoes, more cars and so on. But there are exceptions. If initially people buy local goods like shirts, shoes etc., how would the people take their increase income now? Perhaps, as a first step they would discard the consumption or use of inferiors. They will buy branded shirts, jeans, shoes etc. This is the nature of a consumer, his/her wants will change with change in income.

(1+1+2+2=6)

- (1) What is Demand?
- (2) With the increase in income of the consumer the demand of normal goods will increase or decrease. Give reason.
- (3) Which factors cause a decrease in demand for a commodity?
- (4) The following table indicates the demand for a certain commodity by households A, B & C. Calculate the market demand and draw an appropriate demand curve.

| Price in Rs. | 70 | 60 | 50 | 40 | 30 |
|--------------|----|----|----|----|----|
| A            | 6  | 8  | 12 | 17 | 24 |
| B            | 9  | 12 | 17 | 24 | 32 |
| C            | 11 | 16 | 22 | 30 | 43 |

34-

How a consumer will reach to the equilibrium point, if market rate of exchange is not equal to MRS?

(3+3=6)

\*\*\*\*\*



**General Instructions**

1. This question paper contains 34 questions.
2. Marks are indicated against each question.
3. Answer should be brief and to the point.
4. Answers to the questions carrying 3 marks may be from 50 to 75 words.
5. Answers to the questions carrying 4 marks may be about 150 words.
6. Answers to the questions carrying 6 marks may be about 200 words.
7. Attempt all parts of the questions together.

1. Insurable interest must exist at the time of loss only in case of: (1)  
(a) Life insurance (b) Fire insurance (c) Marine insurance (d) All of the above
2. Which of the following cannot be classified as genetic industry? (1)  
(a) Fishing (b) Animal husbandry (c) Pisciculture (d) Poultry farming
3. Statement I: A statutory corporation is established under the Companies Act, 2013 and is registered and governed by the provisions of the Act.  
Statement II: A government company may be formed as a private limited company or a public limited company. (1)  
(a) Both the Statement I and Statement II are true.  
(b) Both the Statement I and Statement II are false.  
(c) Statement I is true but Statement II is false.  
(d) Statement I is false but Statement II is true.
4. Creating blogs to form various consumer forums and pressure groups through which an aggrieved customer can share his experience about a product is an example of (1)  
(a) C2C commerce (b) Intra B commerce (c) B2B commerce (d) B2Ccommerce
5. Which of the following contract is signed by the promoters with the third party on behalf of the proposed company? (1)  
(a) Provisional contracts (b) Prospectus (c) Preliminary contracts (d) Memorandum of Association
6. \_\_\_\_\_ refers to an enterprise in which a project or service is financed or operated through a partnership of government and private enterprises. (1)  
(a) Joint venture (b) Public Private Partnership  
(c) Multinational companies (d) Government company
7. Choose the incorrect statement with respect to the Life insurance. (1)  
(a) Principle of 'Utmost Good Faith' is applicable in case of Life insurance.  
(b) The word 'Assurance' is used for Life insurance.  
(c) In case of Life insurance, the insurable interest must exist only at the time of taking the policy.  
(d) Principle of 'Indemnity' is applicable to Life insurance.
8. Rajat is a partner in a software firm, R&K Softwares. Rajat's friend, Tanush accompanies him to a business meeting with Infotech Softwares and he actively participates in the negotiation process for the business deal and gives an impression that he is also a partner in R&K Softwares. Which type of partner is Tanush? (1)  
(a) Nominal partner (b) Partner by estoppel (c) Partner by holding out (d) Active partner
9. Avinash wanted to start a business of his own. He thinks that starting a business would give him profits for sure. Which characteristic do you think Avinash is lacking to understand in order to start a business? (1)  
(a) Profit earning (b) Production and procurement of goods and services  
(c) Element of risk (d) Uncertainty of returns
10. Identify the form of public sector enterprise highlighted by the image given below: (1)



- (a) Statutory corporation (b) Government company  
(c) Departmental undertaking (d) Joint venture

11. **Assertion (A) :** Life insurance is not only a protection but is a sort of investment.  
**Reason (R) :** A certain sum is returnable to the insured at the time of death or at the expiry of a certain period. (1)  
 (a) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).  
 (b) Both Assertion (A) and Reason (R) are correct but Reason (R) is not the correct explanation of Assertion (A).  
 (c) Assertion (A) is correct but Reason (R) is incorrect.  
 (d) Assertion (A) is incorrect but Reason (R) is correct.
12. Match the following by choosing the correct option. (1)  

|                         |                                                  |
|-------------------------|--------------------------------------------------|
| A. Prospectus           | (i) Registration of a company                    |
| B. Capital subscription | (ii) Advertisement inviting deposits from public |
| C. Incorporation        | (iii) Raising funds from the public              |
| D. Promotion            | (iv) First stage in the formation of a company   |

 (a) A-(ii); B-(iii); C-(i); D- (iv)                      (b) A-(iii); B-(i); C-(iv); D- (ii)  
 (c) A-(iv); B-(i); C-(ii); D- (iii)                      (d) A-(iii); B-(iv); C-(i); D- (ii)
13. Mutual agency relationship does not exist in case of \_\_\_\_\_ partnership. (1)  
 (a) Particular partnership (b) General partnership (c) Limited partnership (d) Partnership at will
14. Which of the following does not come under E-banking? (1)  
 (a) Electronic Fund Transfer (b) Automatic Teller Machine (c) Debit card (d) Overdraft
15. "Working for one self provides personal satisfaction." Which advantage of sole proprietorship is highlighted in this statement? (1)  
 (a) Quick decision making (b) Direct incentive (c) Sense of Accomplishment (d) Control
16. Smita desires to have two benefits from her bank account. First, to earn higher interest on balance and second, to face minimum risk of dishonouring a cheque. Which kind of account should be opened by her in the bank? (1)  
 (a) Multiple Option Deposit account (b) Recurring Deposit account  
 (c) Savings account (d) Current account
17. Assertion (A): Sale of one's ancestral property will not fit into the description of a business.  
 Reason (R): One single transaction of sale constitute business. (1)  
 (a) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion (A).  
 (b) Both Assertion (A) and Reason (R) are correct but Reason (R) is not the correct explanation of Assertion (A).  
 (c) Assertion (A) is correct but Reason (R) is incorrect.  
 (d) Assertion (A) is incorrect but Reason (R) is correct.
18. Sending quotations of supplying raw materials by one businessman to another is called (1)  
 (a) B2B commerce (b) B2C commerce (c) C2C commerce (d) Intra B commerce
19. Application for approval of name of a company is to be made to \_\_\_\_\_ (1)  
 (a) SEBI (b) Registrar of Companies (c) Central Government (d) State Government
20. The term VPN stands for \_\_\_\_\_ (1)  
 (a) Virtual Private Network (b) Virtual Public Network  
 (c) Various Public Network (d) Virtual Popular Network
21. Ranjeet is a fashion designer and runs his fashion garments business in Patna. After running the business for five years, Ranjeet feels that he should get his business registered in a way that he can save himself from the threat of unlimited liability. But at the same time, he doesn't want anyone else to be a part of decision making or to interfere in this business. (1+2=3)  
 (a) Identify the form of business organisation to be formed by Ranjeet to get it registered.  
 (b) State any two features of the form of business organisation identified in part (a) above.
22. Shilpa and Shaina are two fashion designers from Mumbai. They decided to sell their designer outfits to rich market segment by providing them facility of customising the outfit as per their needs. So they made a website, 'myfashion.com' as they don't want to spend too much finance on opening a retail outlet in a costly market. Soon they started getting good response not only from Mumbai but also from other cities like Chandigarh, Jaipur etc. (1+2=3)  
 (a) Identify the form of business highlighted above by quoting the lines.  
 (b) Identify any two advantages of the above form of business by quoting the lines from the above paragraph.
23. Differentiate between Private sector and Public sector on the basis of (3)  
 (a) Objective (b) Ownership (c) Capital  

**OR**

 Differentiate between Departmental Undertaking and Statutory Corporation on the basis of  
 (a) Legal status (b) Staff (c) Formation

24. Identify the following economic activities.
- (a) Rajesh sells mobile phones on behalf of his employer.
  - (b) It requires minimum academic and other qualifications.
  - (c) Pradeep Singh is an advocate in High court.

OR

(3)

Identify the different auxiliaries to trade highlighted in the following statements:

- (a) Jute bags produced in Kolkata are sold across India.
- (b) Companies send all original documents related to sale or purchase transaction through courier or speed post.
- (c) Manufacturers or traders provide information about their products to the consumers through radio.
25. Mr. Mohit Gupta gets his factory insured against fire for ₹ 40 lakh with insurer X and ₹ 10 lakh with insurer Y. A loss of 5 lakh occurred.
- (a) How much compensation can be claimed from X and Y separately?
- (b) Name the principle of insurance highlighted in the above case.
- (c) The residues of the factory were sold for ₹ 15000. Who will rightly avail the amount and why? (2+1+1=4)
26. Soham Agrawal operates an iron and steel business for last 25 years. His family is joint and has a lot of ancestral property. All the twenty family members are a part of this business. He is the eldest male member in the family so he heads the business. Mohit, his grandson was born few days ago and he is also a member of the business.
- (a) Which form of business is being undertaken by Soham Agrawal?
- (b) Identify the features of the form of business organisation identified above by quoting the lines from the above paragraph. (1+3=4)
27. Ajay and Akshay are partners in an Indian company selling electronic products in neighbouring countries like Bangladesh, Nepal etc. For this purpose, they import the components from their friend Aman who does his business in Japan and then assemble them in their factory established in a rural area in Bihar. Most of the workers in the factory are women and children. They are paid very less salaries, thus the owner saves on labour cost. (4)
- (a) Identify the type of industry in which Ajay and Akshay are engaged.
- (b) State the broad category under which the above identified industry belongs to.
- (c) Identify and explain the type of trade performed by Ajay and Akshay.
- (d) Identify the business objective which has been violated by Ajay and Akshay.
28. Differentiate between Traditional business and E- business on the basis of
- (a) Ease of formation (b) Government patronage
- (c) Transaction risk (d) Locational requirements (4)
29. What do you mean by E-banking? State the advantages of E-banking. (4)
- OR**
- What do you mean by insurance? Describe the various types of insurance.
30. State any 8 contents of a partnership deed. (4)
- OR**
- Is it compulsory for a partnership firm to get registered? What are the consequences of non-registration of a partnership firm.
31. Sprinz Ltd is a leading marketing company of soft drinks. Its 34% of total paid-up capital is held by Central Government and 20% is by Delhi government.
- (a) Identify and explain the form of public sector enterprise mentioned above.
- (b) Explain any two merits and two demerits of such enterprise. (6)
32. Explain briefly the following principles of Insurance along with an example for each.
- (a) Principle of Subrogation
- (b) Principle of Mitigation
- (c) Principle of Causa Proxima (6)
33. Explain briefly the clauses of Memorandum of Association. (6)
- OR**
- Explain briefly the different types of Cooperative Society.
34. What do you mean by Business risk? State any two features of Business risk. Explain any three causes of Business risk. (1+2+3=6)
- OR**
- What do you mean by Trade? State any two types of Internal Trade. Explain any three types of auxiliaries to trade.



# DELHI PUBLIC SCHOOL, BHILAI

Date : 03.10.2023

MIDTERM EXAMINATION - 2023

Time : 3 Hrs.

Class : XI

Subject : Accountancy

Max. Marks : 80

## General Instructions :

1. This question paper contains 34 questions. All questions are compulsory.
2. Question Nos. 1 to 20 carries 1 mark each.
3. Question Nos. 21 to 26 carries 3 marks each.
4. Question Nos. 27 to 29 carries 4 marks each.
5. Question Nos. 30 to 34 carries 6 marks each.
6. There is no overall choice. However, an internal choice has been provided in 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.

01. Under which feature of accounting, meaningful and sound judgement can be made about the profitability and financial position of the business?  
(a) Analysis and Interpretation (b) Communication (c) Summarising (d) Classifying (1)
02. **Assertion (A)** : Life Insurance Premium of the owner, paid by business's bank account is debited to drawings account.  
**Reason (R)** : Bank account is credited when any payment is made through cheque. (1)  
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).  
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).  
(c) Assertion (A) is true but Reason (R) is false.  
(d) Assertion (A) is false but Reason (R) is true.
03. If Owner's Equity is Rs 2,30,000; External Liabilities Rs 1,10,000; Bank balance Rs 35,000; Total Assets of the firm will be :  
(a) 3,40,000 (b) 3,05,000 (c) 3,75,000 (d) 3,00,000  
**OR**  
A's capital on 01<sup>st</sup> April, 2022 is Rs 30,000. His Assets on 31<sup>st</sup> March, 2023 are Rs 45,000 and Liabilities Rs 9,000. His profit on 31<sup>st</sup> March, 2023 will be :  
(a) Rs 9,000 (b) Rs 6,000 (c) Rs 15,000 (d) Rs 24,000
04. Assets are divided into two parts (i) Non-Current Assets and (ii) Current Assets, according to:  
(a) Accounting Period Principle (b) Materiality Principle  
(c) Going Concern Principle (d) Accrual Principle (1)
05. Depreciation is charged on fixed assets year after year with the same method due to:  
(a) Going Concern Assumption (b) Accounting Period Assumption  
(c) Money Measurement Principle (d) Consistency Principle (1)
06. Which of the following is a Revenue Receipt?  
(a) Sale of Old Machinery (b) Sale of goods  
(c) Purchase of furniture (d) Salaries paid to employees (1)
07. What is the full form of GST?  
(a) Goods and Supply Tax (b) General Sales Tax  
(c) Goods and Services Tax (d) Government Sales Tax (1)
08. Which of these items shows a debit balance in Trial Balance?  
(a) Purchase Return (b) Outstanding Salary (c) Sales (d) Prepaid Expenses (1)
09. **Assertion (A)** : Cash Book is both a subsidiary book as well as Principal Book.  
**Reason (R)** : Cash book records cash transactions and also represent the cash account. (1)  
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).  
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).  
(c) Assertion (A) is false but Reason (R) is true.  
(d) Assertion (A) is true but Reason (R) is false.
10. Ledger Account is prepared from:  
(a) Vouchers (b) Trial Balance (c) Journal (d) Financial Statements (1)  
**OR**  
Which of these items will appear on the credit side in the Ledger Account?  
(a) Rent Paid (b) Cash Received (c) Discount Received (d) Purchases (1)

Contd...2

11. Goods Purchased for cash are recorded in the  
 (a) Purchases Book (b) Cash Book  
 (c) Purchases Return Book (d) Cash Book and Purchases Book (1)
12. Machinery Purchased for cash should be debited to :  
 (a) Machinery A/c (b) Cash A/c (c) Purchase A/c (d) Sales A/c (1)
- OR**
- Withdrawal of cash from business by the proprietor is credited to :  
 (a) Drawings A/c (b) Capital A/c (c) Cash A/c (d) Profit and Loss A/c (1)
13. Under Accrual Basis of Accounting:  
 (a) Both Cash and Credit transactions are recorded  
 (b) Only Cash transactions are recorded  
 (c) Only Credit transactions are recorded  
 (d) Either Cash or Credit transactions are recorded (1)
- OR**
- Which of the following Accounting Principle is ignored by the Cash basis of Accounting?  
 (a) Business Entity Principle (b) Matching Principle  
 (c) Accounting Period (d) Materiality Principle
14. Which of the following is not recorded in the Cash Book?  
 (a) Credit Sales (b) Cash Receipts (c) Cash Payments (d) Opening Cash Balance (1)
15. A Trial Balance shows:  
 (a) Only Credit Balance (b) Only debit balance  
 (c) Both debit and credit balances (d) Either debit or credit balance (1)
16. Which of the following is not recorded in the books of account?  
 (a) Sales of goods (b) Payment of Salary (c) Quality of Staff (d) Purchase of goods (1)
- OR**
- Which one is the advantage of accounting?  
 (a) Replacement of Memory (b) May lead to window dressing  
 (c) Does not record price level changes (d) Accounting is not fully exact (1)
17. Which of the following is a long term liability?  
 (a) Outstanding expense (b) Creditors (c) Debentures (d) Bills Payable (1)
- OR**
- Which of the following is an intangible asset?  
 (a) Machinery (b) Furniture (c) Bills Receivable (d) Patents
18. State how GST rate will be applicable if CGST is 9% , SGST is 9% and IGST is 18% in the following situation:  
 Raj of Gujarat sold goods worth Rs 20 000 to Ravi in Maharashtra  
 (a) CGST @ 9% (b) SGST @ 9% (c) both CGST and SGST @9% (d) IGST @ 18% (1)
19. Cash memo is a source voucher for seller of goods:  
 (a) for cash sales (b) for credit purchases (c) for credit sales (d) for cash purchases (1)
- OR**
- Credit purchase of furniture is recorded through  
 (a) Transfer Voucher (b) Cash Voucher (c) Debit Voucher (d) Credit Voucher (1)
20. Goods withdrawn worth Rs 2,000 by proprietor from stock for his own use, the selling price of the goods being Rs 3,000. The correct Journal Entry for the above transaction would be:  
 (a) Dr. Drawings A/c and Credit Purchase A/c by Rs 3,000.  
 (b) Dr. Drawings A/c and Credit Sales A/c by Rs 2,000.  
 (c) Dr. Drawings A/c and Credit Purchases A/c by Rs 2,000.  
 (d) Dr. Sales A/c and Credit Drawings A/c by Rs 2,000. (1)
21. What are the different components of GST? Explain. (3)
- OR**
- What are the characteristics of GST?
- 22 (a) What is Ledger?  
 (b) What do you understand by posting? Explain with an example. (1+2)

23. Distinguish between Cash Basis and Accrual Basis of Accounting on the basis of:  
(a) Technical Knowledge (b) Legal Position (c) Nature of Transactions (3)
- OR**
- R.K. Bros. made a total sales of Rs 8,00,000 during the accounting period 2022-23 out of which 70% was Cash Sales and remaining Credit Sales. The total expenses for the year was :
- |                        |   |             |
|------------------------|---|-------------|
| Salaries Paid          | - | Rs 2,00,000 |
| Rent Paid              | - | Rs 12,000   |
| Insurance Premium Paid | - | Rs 20,000   |
| Outstanding Commission | - | Rs 18,000   |
- Find the income of R.K. Bros. on the basis of  
(a) Cash Basis (b) Accrual Basis of Accounting
24. Which accounting concept would be followed in dealing with following issues and explain briefly what each concept means:  
(a) The accountant wants to record the quality of Manpower in the books of account.  
(b) Rent for the month of March, 2022 is not paid.  
(c) During the year, pencils worth Rs 50 were purchased and issued from stock and were still in use at the end of the year. (3)
25. Mention the subsidiary books in which following transactions are recorded:  
(a) Goods returned by debtors  
(b) Purchase of goods for cash  
(c) Purchase of Machinery for cash  
(d) Goods sold to Ramesh  
(e) Purchase of furniture from MS Furnitures Ltd.  
(f) Goods Returned to Meena; a Creditor (3)
26. Explain (a) Invoice (b) Pay-in-Slip (c) Debit Note (3)
27. What are the qualitative characteristics that must be present in Accounting Information? (4)
- OR**
- Why are the following parties interested in Accounting Information?  
(a) Management (b) Creditors (c) Banks and Financial Institutions (d) Employees and Workers
28. Prepare Accounting Equation on the basis of the following :  
(i) Started business with Cash Rs 15,000; Goods Rs 6000; Machinery Rs 10,000 and Furniture Rs 5,000  
(ii) Goods costing Rs 2,000 sold for Rs 3,000  
(iii) Commission Received in Advance Rs 500  
(iv) Interest on capital provided Rs 1,000 (4)
29. Mr. Satish from Mumbai started a business of buying and selling electronic goods. He brought Rs 8,00,000 cash; Rs 1,00,000 furniture; Motor Vehicle Rs 3,00,000 and Stock Rs 2,00,000.
- He opened a bank account for the business and deposited Rs 50,000. He employed 2 helpers, 1 clerk and 1 Accountant. At the end of the month he paid salaries to the employees as follows :
- |            |   |               |
|------------|---|---------------|
| Helpers    | - | Rs 6,000 each |
| Clerk      | - | Rs 8,000      |
| Accountant | - | Rs 10,000     |
- Out of the Stock, he sold goods costing Rs 20,000 for Rs 30,000 for cash and goods worth Rs 50,000 was sold for Rs 75,000 to Mr. Satvik. Mr. Satvik paid Rs 25,000 in cash and a cheque of Rs 10,000. Cheque was deposited into the bank on the same day.
- From the above information, answer the following :  
(i) How much Capital is introduced by Mr. Satish ?  
(ii) What is the amount of Fixed Assets he brought in the business ?  
(iii) What is the amount of Total Sales?  
(iv) What is the amount of Debtors? (4)

30. From the following transactions, state the nature of accounts and state which account will be debited and which account will be credited : (6)

|       |                                    |   |    |          |
|-------|------------------------------------|---|----|----------|
| (i)   | Vinod started business with Cash   | - | Rs | 6,00,000 |
| (ii)  | Purchased goods from David         | - | Rs | 40,000   |
| (iii) | Purchased furniture for office use | - | Rs | 20,000   |
| (iv)  | Loan taken from Sohan for business | - | Rs | 1,00,000 |
| (v)   | Salary paid to employees           | - | Rs | 60,000   |
| (vi)  | Cash paid to David                 | - | Rs | 40,000   |

31. Enter the following transactions in Purchases Book of M/s. Gurman Brothers, Mumbai: 2023

|          |                                                                                                                                                                                     |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 1  | Purchased goods from Joshi Bros. Mumbai:<br>10 Philips Tubelights @ Rs 200 each<br>50 Crompton Bulbs @ Rs 100 each<br>Trade Discount @ 10%                                          |
| April 6  | Purchased 20 Havell's Tubelights @ Rs 180 each for cash<br>Trade Discount @10%                                                                                                      |
| April 10 | Purchased Goods from Rajesh Electric Store, Delhi<br>25 Heaters @ Rs 800 each, 10% Trade Discount<br>15 Crompton Fans @ Rs1600 each, 10% Trade Discount<br>Packaging Charges Rs 100 |
| April 15 | Purchased a laptop for Rs 50,000 from Computer Mart.                                                                                                                                |
| April 16 | Purchased goods from Supreme Electric Store, Delhi<br>5 dozen Philips bulbs @ Rs100 each.<br>25 Power Plugs @ Rs 80 each.<br>Trade discount is 10% and Freight Charges are Rs 75.   |

**OR**

From the following transactions of M/s. Ridhima Sales, Kolkata, prepare Sales Book.

|         |                                                                                                                                              |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------|
| March 1 | Sold to M/s. Gayatri Tea, Assam, 3 chests of Tea for Rs 5000 per chest less Trade Discount @5%                                               |
| March 4 | Sold to M/s. Mohan & Sons, Kolkata, 20 kg Amul Butter @ Rs 250 per kg.<br>Less Trade discount @5%                                            |
| March 5 | Sold to M/s. Garry Sons, Delhi, 20 kg Assam Tea @ Rs 600 per kg less Trade Discount @5%, Freight Charges Rs 1,000 and Packing Charges Rs 600 |
| March 6 | Sold 10 kg Amul Butter to Ganguli Bros., for Cash @ Rs. 250 per kg.                                                                          |
| March 7 | Sold Office Furniture to Raman & Co. for Rs 10,000                                                                                           |

32. Prepare a Trial Balance as at 31<sup>st</sup> March, 2023 based on the following balances : (6)

| Name of Accounts                     | Amount (Rs) |
|--------------------------------------|-------------|
| Capital                              | 1,00,000    |
| Drawings                             | 16,000      |
| Machinery                            | 20,000      |
| Sales                                | 2,00,000    |
| Purchases                            | 2,10,000    |
| Return Inwards                       | 20,000      |
| Return Outwards                      | 30,000      |
| Wages                                | 40,000      |
| Goodwill                             | 60,000      |
| Interest Received                    | 15,000      |
| Discount allowed                     | 6,000       |
| Bank Overdraft                       | 22,000      |
| Bank Loan                            | 90,000      |
| Debtors                              | 75,000      |
| Creditors                            | 60,000      |
| Cash                                 | 54,000      |
| Stock on 1 <sup>st</sup> April, 2022 | 16,000      |

Q.33 (a) What is a Cash Book? What are its two types?

(b) What is a Contra Entry? Give two examples of Contra Entry.

(3+3)

**OR**

Prepare a double column Cash book of Amitabh, Hyderabad from the following transactions:

(6)

| 2023     |                                                                                            | Rs       |
|----------|--------------------------------------------------------------------------------------------|----------|
| April 1  | Cash in Hand                                                                               | 2,20,000 |
|          | Cash at Bank (Overdraft)                                                                   | 60,000   |
| April 3  | Deposited in Bank                                                                          | 80,000   |
| April 4  | Goods purchased against cheque                                                             | 34,000   |
| April 7  | Cash Purchases                                                                             | 16,000   |
| April 8  | Paid Commission by cheque                                                                  | 12,000   |
| April 9  | Withdrew from bank for personal use                                                        | 2,500    |
| April 12 | Received from Ved                                                                          | 6,000    |
|          | Half the amount was deposited into Bank on the same day                                    |          |
| April 16 | Interest collected by Bank                                                                 | 14,000   |
| April 20 | Cash Sales                                                                                 | 42,000   |
| April 22 | Salaries Paid                                                                              | 40,000   |
| April 23 | Goods Sold to Sonal & Co., Ahmedabad                                                       | 36,000   |
| April 24 | Received a cheque dated 3 <sup>rd</sup> May, 2023 from Sona & Co. after discount of Rs 800 | 35,200   |

Q.34 Pass Journal Entries for the following transactions :

(6)

|       |                                                                                                   |        |
|-------|---------------------------------------------------------------------------------------------------|--------|
| (i)   | Paid Cash to Maira against dues                                                                   | 9,750  |
|       | Received Discount                                                                                 | 250    |
| (ii)  | Sohan is declared insolvent. Received from his Official Receiver 60 paise in a rupee on a debt of | 10,000 |
| (iii) | Paid as Life Insurance Premium                                                                    | 5,000  |
| (iv)  | Interest due but not received                                                                     | 4,000  |
| (v)   | Out of the rent paid this year, Rs 2,000 relates to the next year                                 |        |
| (vi)  | Allow Interest on Capital                                                                         | 5,000  |

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DELHI PUBLIC SCHOOL, BHILAI

Date : 25.09.2023
Class : XI

MIDTERM EXAMINATION - 2023
Subject : Engineering Graphics

Time : 3 Hrs.
Max. Marks : 70

General Instructions :

- i. Attempt any seven questions.
- ii. Use both side of drawing sheet if necessary.
- iii. All dimensions are in mm.
- iv. Missing and mismatching dimension if any may be suitably assumed.
- v. Follow the SP: 46-2003 revised codes with first angle method of projection.
- vi. Give your answer according to question.

- 1.(a) Write the sentence in single stroke capital letters in 10 mm letter height:
"Engineering Graphics is the language of Engineers". (05)
(b) Construct a regular pentagon of side 40mm. (05)
- 2.(a) Construct a quadrilateral MORE with MO = 60 mm, OR = 45 mm, $\angle M = 60^\circ$, $\angle O = 105^\circ$ and $\angle R = 105^\circ$ (05)
(b) Draw the given Square of side = 50 mm. Inscribe a circle in it. (05)
- 3.(a) Construct a parallelogram ABCD with AB=50 mm, BC=60 mm and $\angle D = 85^\circ$. (04)
(b) Draw the projections of the following points on the same XY line,
(a) A, in the H.P. and 20 mm behind the V.P. (02)
(b) B, 40 mm below the H.P. and 25 mm in front of the V.P. (02)
(c) C, 15 mm above the H.P. and 50 mm behind the V.P. (02)
- 4.(a) Draw an internal tangent to two circles, each of radius 20 mm when their centres are 60 mm apart. (04)
(b) An equilateral triangle ABC of 50 mm side has its plane parallel to H.P. and side AB parallel to V.P.
Draw its projections when the corner C is 15 mm from H.P. and 45 mm from the V.P (06)
5. Draw the projection of a line AB 75 mm long in following positions.
(a) Parallel to and 40 mm in front of the V.P. and in the H.P. (03)
(b) Perpendicular to the V.P., 25 mm above the H.P. and its one end in the V.P. (03)
(c) Inclined at 30° to the H.P. and its one end 20 mm above it; parallel to and 30 mm in front of V.P. (04)
6. A straight line PQ of 30 mm length has its one end P 10 mm from the H.P. and 15 mm from the V.P.
Draw the projections of the line if it is parallel to the V.P. and inclined at 30° to the H.P. Assume the line to be located in each of the four quadrants by turn. (10)
7. Draw the projections of a circular lamina of 60 mm dia. when its center is 40 mm above the H.P. and 35 mm from the V.P. The lamina is inclined at an angle of 45° to V.P. and perpendicular to the H.P. (10)
8. A Hexagonal plate of sides 30 mm is resting on a corner on the H.P. Draw its front view and top view if its plane is inclined at 45° to H.P., perpendicular to the V.P. and two opposite parallel sides are parallel to V.P (10)





1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A has 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each. One internal choice is given.
5. Section C has 05 Short Answer type questions carrying 03 marks each. One internal choice is given.
6. Section D has 03 Long Answer type questions carrying 05 marks each. One internal choice is given.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only

SECTION A

1. Flash memory and Blu Ray Disk are examples of –
a. Hardware b. Software c. CPU d. All of these
2. Libre office calc is an –
a. Application software b. Utility Program c. System software d. None of these
3. Which smaller unit of the CPU performs all arithmetic and logic functions in a computer?
a. ALU b. CU c. Memory Unit d. Register
4. A disk fragmentor is an example of –
a. Application Software b. System Software c. Utility program d. None of these
5. ASCII code is a 7 bit code for ____
a. letters b. numbers c. other symbols d. All of these
6. Which of the following is not a valid encoding scheme for characters?
a. ASCII b. ISCII c. Unicode d. ESCII
7. Which of the following is NOT a Python IDE?
a. IDLE b. Spyder c. Jupyter Notes d. Sublime Text
8. Python code can run on a variety of platforms, it means Python is a _____ language.
a. Graphical b. Independent c. Cross platform d. All of these
9. Python has ____ working mode(s).
a. Only one b. two c. three d. different
10. Python is ____ language.
a. Object Oriented b. Procedural c. Functional d. None of these
11. Data items having fixed values are called –
a. Identifiers b. Functions c. Keywords d. Literals
12. Escape sequences are treated as ____
a. strings b. characters c. Integers d. None
13. To print a line of text without ending it with a newline, ____ argument is used with print().
a. sep b. newline c. end d. next
14. What is value of expression 100/25?
a. 2.5 b. 4.0 c. 4 d. None of these
15. Given a list L=[10,20,30,40,50,60,70], what would L[2:5] return?
a. [10,20,30] b. [30,40,50] c. [50,60,70] d. None
16. Consider the loop given below:
for i in range(3):
 pass
What will be the final value of i after this loop?
a. 0 b. 1 c. 2 d. 3
17. Which of the following functions will return the total number of characters in a string?
a. count() b. index() c. len() d. All of these

18. In the following question a statement of assertion (A) is followed by a statement of reason(R)

Assertion : The for loop is a counting loop that works with sequences of values.

Reason : The range() function generates a sequence of list type.

- Both A and R are true and R is the correct explanation of A.
- Both A and R are true but R is not the correct explanation of A.
- A is true but R is false (or partly true)
- A is false (or partly true) but R is true.

SECTION B

- Convert $(4052)_{10}$ to Hexadecimal 2
- Convert $(B2F)_{16}$ to Octal. 2
- How are keywords different from identifiers? 2
- Write a program to accept radius of a circle and print its area. 2
- Write a program to input a string and print number of upper and lower case letters in it. 2
- Write a program to check whether entered sting is a palindrome or not. 2

OR

- Differentiate between split() and partition() with respect to strings 2
- Write a program to read a list of n integers and find their median and mean. 2
(Hint: Use of built – in function can be done)

SECTION C

- Explain the various categories of software 3
- Write a program to generate 3 random numbers between 100 and 999 which is divisible by 5. 3
- In python what are the mutable and immutable datatypes? Explain with example. 3
- Write a program that prompts for a phone number of 10 digit and two dashes , 3
with dashes after the area code and the next three number .For example, 017-555-1212
Display if the phone number entered is valid format or not
- Ask the user to enter a list containing numbers between 1 and 12. Then replace all of the entries in the 3
list that are greater than 10 with 10.

OR

- Write a program that inputs two lists and creates a third list that contains all elements of the first list 3
followed by all elements of the second.

SECTION D

- Write a pseudocode to count and print from 1 to 10. Draw flowchart to depict the same. 5
- Write a program to print the following patterns. (2½+2½=5)
(a) A (b) *
B B * *
C C C * * *
D D D D * * * *
E E E E E * * *
* *
*

OR

- Write a complete python program to do the following: 5
(a) read an integer X.
(b) determine the number of digit n in X.
(c) from an integer Y that has the number of digit n at tens place and the most significant Digit of X at ones place.
(d) output Y
- Ask the user to enter a list of string. Create a new list that consist of those strings with 5
their first characters removed.
Example:
Entered list of string = ["Python", "C++", "Java", "CSS"]
New list = ['ython', '++', 'ava', 'SS']

SECTION E

- Discuss two common tools for developing an algorithm. 4
- Write a program to find the sum of the following series.(Input value of n from the user) 4

$$s = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \dots + \frac{1}{n!}$$



DELHI PUBLIC SCHOOL, BHILAI

Date : 22.09.2023

MIDTERM EXAMINATION - 2023

Time : 3 Hrs.

Class : XI

Subject : Informatics Practices (065)

Max. Marks : 70

General Instructions:

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.
9. Internal choice is given in Sections B-D.

Section –A

- Q1. _____ refers to the program code written by a programmer in a high level language. 1
a. Source Code b. Object Code c. Program d. File
- Q2. The _____ memory is a special high speed memory storing the most recently accessed data 1
a. RAM b. ROM c. Cache Memory d. SSD
- Q3. Interactive mode in Python is also known as – 1
a. Immediate mode b. Interpreter mode c. Run time mode d. None
- Q4. The shortcut key to run a Python program from script mode is – 1
a.F5 b.F4 a.F10 b.F9
- Q5. Which of the following symbol is not a keyword of Python – 1
a. if b.else c.for d. none
- Q6. Which of the following function is used to return memory address of a variable – 1
a. add() b. ord() c. id() d. none of these
- Q7. _____ function gives data type of an identifier – 1
a. type() b. id() c. int() d.str()
- Q8. Expression ' True or False' will evaluate – 1
a. True b. False c. Can't Predict d. None
- Q9. math.floor(25.2) will evaluate – 1
a. 25 b. 26 c. 24 d. 28
- Q10. and , or , not are known as - 1
a. Logical operators b. Identity operators c. Assignment operators d.None
- Q11. _____ function converts the given data into an integer data type- 1
a. Data() b. type() c. int() d. val()
- Q12. Which of the following is (/are) not valid identifier(s) – 1
a. Admission_no b. 2No c. sales# d. both b and c
- Q13. 10%5 will return – 1
a. 0 b. 1 c.5 d. 2
- Q14. Which of the following is an built-in-Exception – 1
a. ZeroDivisionError b. IndexError c. ValueError d. All
- Q15. Which of the following is a mutable data type – 1
a. list b. tuple c. dictionary d. both a and c
- Q16. print('DPS'*2+'SCHOOL') will give the following output- 1
a. DPSDPS SCHOOL b.DPS SCHOOL DPS SCHOOL c. DPS SCHOOL d. None
- Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as -
- i. Both A and R are true and R is the correct explanation for A
i. Both A and R are true and R is not the correct explanation for A
iii. A is True but R is False
iv. A is false but R is True
- Q17. Assertion(A) – A Loop which never ends is known as infinite looping. 1
Reasoning (R) – In infinite looping test condition is always true.
- Q18. Assertion(A) – White space is controlled by escape sequence in Python. 1
Reasoning (R)– '\t' escape sequence is used for adding return key.

Contd...2

Section – B

Q19. What are Python's built-in-core data types.

2

Or

Give output of the given Python code snippet –

```
n1,n2,n3=11,10,5
print(n1//n2, n1%n3)
print(n2**3, n1*3)
```

Q20. What do you understand by Syntax and Semantic errors? Give suitable example of each.

2

Or

What is type casting? Explain with example.

2

Q21. Write a program to input two integer numbers and swap them.

Q22. Give python code that reads time in seconds and prints it in the equivalent form of minutes and seconds. Example 200 seconds should be printed as 3 minutes 20 seconds.

2

2

Q23. Define the following terms – (any 2)

a.Keyword b. Literals c. tokens

2

Q24. Predict the output of the given code snippets –

```
for n in range(3):
    print(n*2, end=' ')
```

2

Q25. Write a program to print all divisors of a given number.

Section – C

1x3=3

Q26. Describe the terms –

a. Antivirus Software b. Proprietary Software c. Open Source Software

3

Q27. Give Python code to accept three integer numbers and print the largest one.

Or

Predict the output of the given Python code –

```
a='Class'
print(len(a))
print(a[1:3])
print(type(a))
```

½ x6=3

Q28. Identify the data type of the following literals -

i) 78.5 ii) 90 iii) 'HOLY' iv) True v) 'false' vi) 4+5j

Q29. Write a program to calculate net salary after accepting basic salary of an employee when, HRA is 20%, DA is 70%, tax is 25% of basic salary.

3

net=basic+hra+da-tax

3

Q30. Write a python program to read a number and print its first ten multiples.

Section – D

Q31. Write a program to input percentage of marks (aggregate marks) of a student and find his/her grade as follows-

5

Percentage of Marks(%)	Grade
Above 90	A
80 to 90	B
70 to 80	C
60 to 70	D
Below 60	E

Q32. Write a program to enter a given character and check whether the given character is uppercase character, lowercase character, digit or any other special character.

5

Or

Write a program to enter two integer numbers and an arithmetic operator and display the computed result. (ex if two nos given 10, 3 and operator * then result should be 30)

1x5=5

Q33. Expand the following terms -

i) SSD ii) BRD iii) FLOSS iv) ALU v) IC

Section – E

1x4=4

Q34. Answer the following -

- Name the Developer of Python programming language.
- Python is a cross platform language state True/False.
- Python is an open source software. State True/False.
- Python programs are saved with a user given name and with _____ extension.

Q35. i) Write a program to input short term debt (STD), long term debt (LTD) and total asset (TA) of a company. Calculate the ratio (R) as-

2

$$R = \frac{STD+LTD}{TA}$$

ii) Write a program to input cost price and profit earned of a product and calculate its selling price.

2



Date : 22.09.2023
Class : XI

MIDTERM EXAMINATION - 2023
Subject : Geography

Time : 3 Hrs.
Max. Marks : 70

General Instructions:

1. This question paper contains 30 questions. All questions are compulsory.
2. This question paper is divided into five sections. Sections-A, B, C, D and E.
3. Section A - Question number 1 to 17 are Multiple Choice type questions carrying 1 mark each.
4. Section B- Question number 18 and 19 are Source based questions carrying 3 marks each.
5. Section C- Question number 20 to 23 are Short Answer type questions carrying 3 marks each.
Answer to these questions shall be written in 80 to 100 words.
6. Section D Question number 24 to 28 are Long Answer type questions carrying 5 marks each. Answer to these questions shall be written in 120 to 150 words.
7. Section E Question number 29 and 30 are Map based questions carrying 5 marks each.

SECTION A

- Q1. There are two statements marked as Assertion(A) and Reason(R).
Mark your answer as per the codes provided below. 1
- Assertion :** The Himalayas are young-fold mountains which are the loftiest and one of the most rugged mountain barriers of the world.
- Reason :** The Himalayas were formed as a result of the collision between the Indian Plate and Eurasian Plate.
- Options:**
- A. Both (A) and (R) are true but (R) is not the correct explanation of (A)
 - B. Both (A) and (R) are true and (R) is the correct explanation of (A)
 - C. Both (A) and (R) are incorrect.
 - D. (A) is correct but (R) is incorrect

- Q2. Consider the following and choose the correct answer with the help of given codes 1

	River		Sources
1	Indus	I	Amarkantak
2	Kaveri	II	Manasarovar
3	Godavary	III	Brahmagiri range
4	Narmada	IV	Western Ghat

Options:

	I	II	III	IV
a)	1	2	3	4
b)	4	1	2	3
c)	4	3	2	1
d)	2	3	4	1

- Q3. Which one of the following waves is most destructive? 1
- a. P – waves
 - b. Surface waves
 - c. S-waves
 - d. None of the above
- Q4. Consider the following statements and choose the correct answer with the help of given Option: 1
- I. The drainage pattern resembling the branches of the tree are known as dendritic pattern.
 - II. Dendritic pattern develop over sedimentary rock areas.
- Options :**
- a) Both the statements are true.
 - b) Only statement I is true.
 - c) Only statement II is true
 - d) Both the statements are wrong

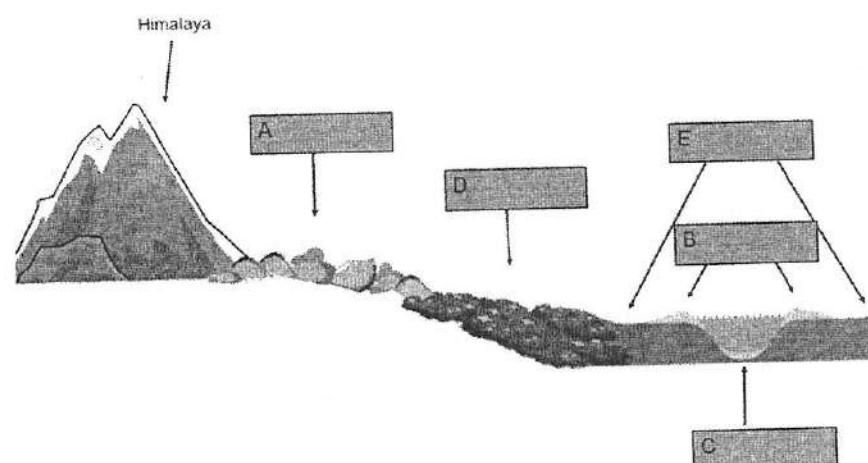
- Q5. Given below is a list of pillars of human development and its indicators. Which of the following pair is NOT correctly matched? 1

- a. Hydrology- Study of water resources
- b. Meteorology - Study of weather factors
- c. Pedology – Study of soil characteristics
- d. Geology - Study of organic content

- Q6. Who formulated the governing equations of the Big Bang theory? 1
- a) Albert Einstein
 - b) Edward Hubble
 - c) Thomas Edison
 - d) Erasthomenus

- Q7. Which of the followings is not a type of volcano?
a) Shield b) Composite c) Ridge d) Caldera
- Q8. Which of the following is direct source of information about the interior of the earth?
a) Earth Quake Waves b) Volcanoes c) Magnetism d) Gravitational Force
- Q9. Which one of the following describe the lithosphere?
a) Upper and lower mantle b) Crust and upper mantle
c) Crust and core d) Mantle and core
- Q10. The Himalayas consist of three parallel ranges in its longitudinal extent. Which of the following is the name of the northern-most range?
a) The Shivaliks b) The Himachal c) The Himadri d) The Purvanchal
- Q11. From the point of view of geology, which of the following physiographic divisions of India is considered to be an unstable zone?
(a) The Himalayan Mountains
(b) The Peninsular Plateau
(c) The Indian Desert
(d) The Islands
- Q12. The process by which oxygen reacts with iron minerals in rock to form rust is called:
a. Carbonation b. Hydration c. Oxidation d. Abrasion
- Q13. If you are asked to formulate the National River Policy, what will be the utmost important priority for you.
a. To remove silt from river water b. To control river water pollution
c. To solve river water disputes between states d. All of the above

Study the following diagram and answer question no 14 to 17



- Q14. Identify A from the above given structure of Northern plains?
a) Bangar b) Terai c) Bhabar d) Khadar
- Q15. E and B of the diagram represents
a) Terai and Bhabar b) Terai and Khadar c) Bangar and Khadar d) Terai and Bangar
- Q16. Which one of the following is also known as "zone of river re emergence"
a) Bangar b) Terai c) Bhabar d) Khadar
- Q17. Which one of the following is not true about "A" region in the diagram?
a) a narrow belt of about 8 to 16 km in width b) Densely populated area
c) deposition of pebbles by the rivers d) parallel to the slopes of the Shiwaliks

SECTION B

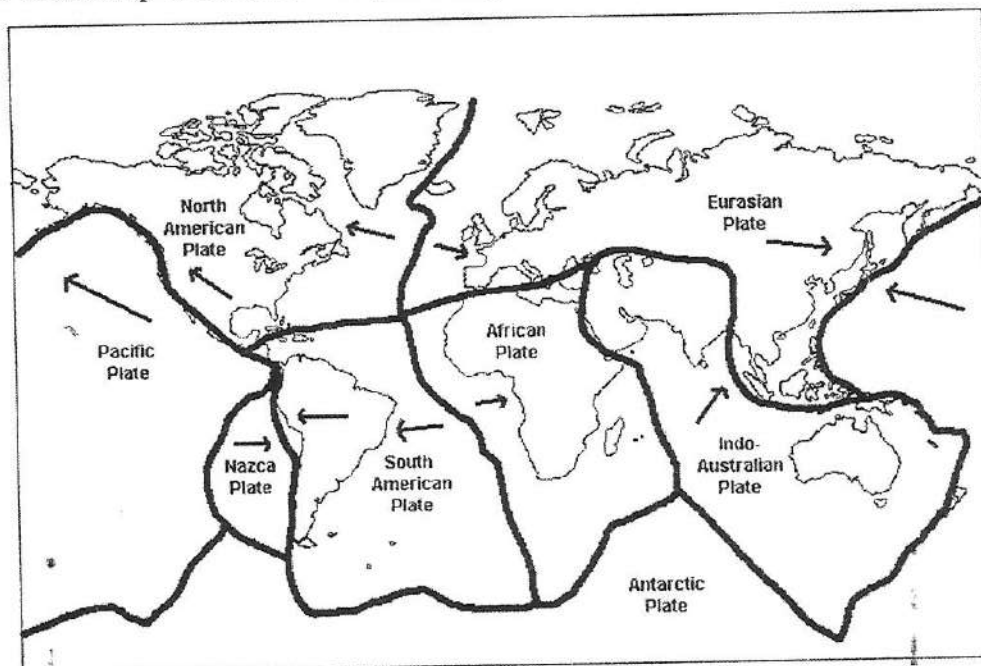
- Q18. Read the given Passage carefully and answer the questions that follow:

1x3= 3

The major approaches to study geography have been (i) Systematic and (ii) Regional. The systematic geography approach is the same as that of general geography. This approach was introduced by Alexander Von Humboldt, a German geographer (1769-1859) while regional geography approach was developed by another German geographer and a contemporary of Humboldt, Karl Ritter (1779-1859). In systematic approach a phenomenon is studied world over as a whole, and then the identification of typologies or spatial patterns is done. In the regional approach, the world is divided into regions at different hierarchical levels and then all the geographical phenomena in a particular region are studied. These regions may be natural, political or designated region. The phenomena in a region are studied in a holistic manner searching for unity in diversity.

- a. How is Systematic Geography different from Regional Geography?
b. 'The world is divided into regions at different hierarchical levels. Give any two examples of regions.
c. The systematic approach is same that of general Geography. Give one reason for the same.

19. Study the world map and answer the question given below.



- A. What type of plate boundary exists between the North American and Pacific plates?
- B. What kind of landforms are getting created between south American and African plate?
- C. Why Himalayas got uplifted on its current location?

SECTION C

20. What were the gases which initially formed earth's atmosphere? 3
21. Describe various volcanic landforms? 3
- 22 A. Describe any three methods of Biological weathering?
- OR**
- B. Compare the features of Island groups of India in terms of location and formation. 3
23. Briefly describe the landforms developed by the erosional work of wind. 3

SECTION D

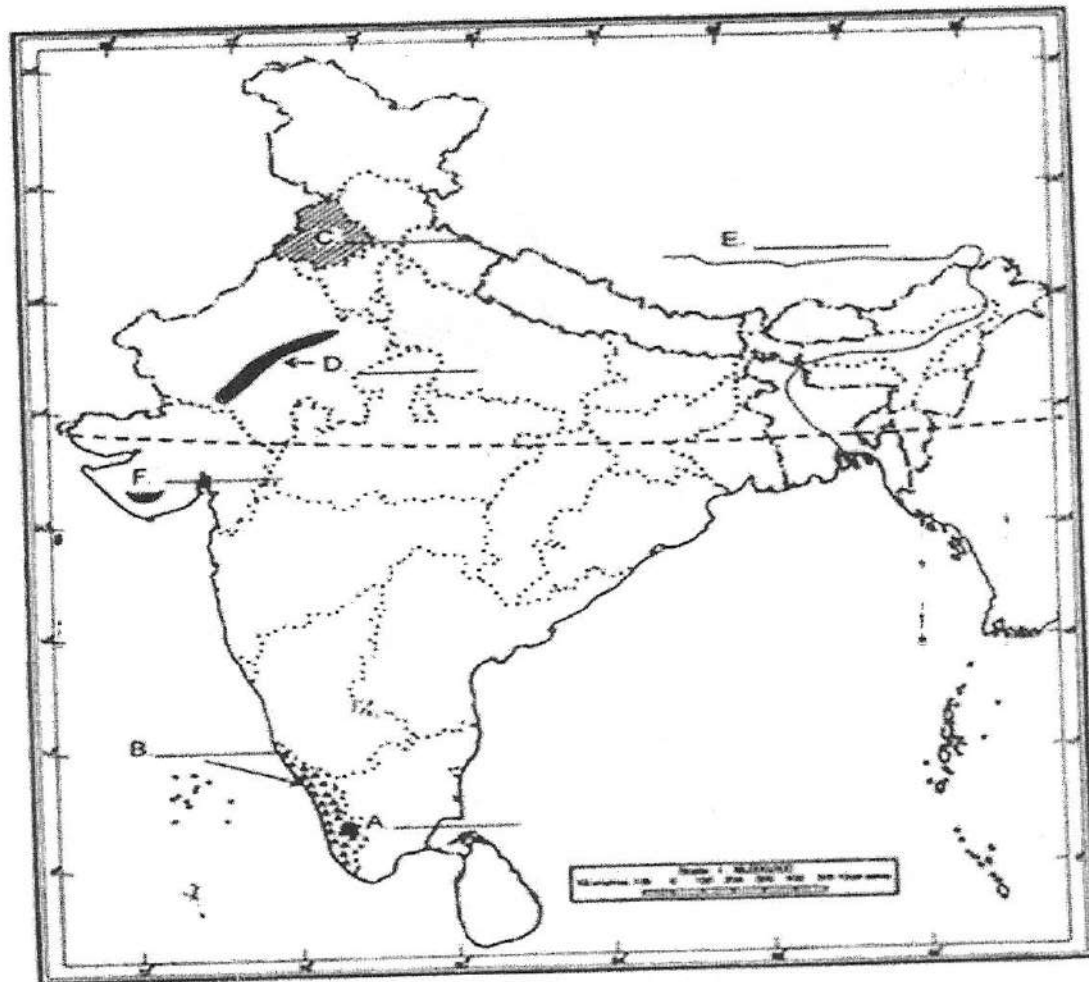
24. "In fact the soil forming factors act in union and affect the action of one another" Support the statement with suitable examples of factors controlling the formation of soil. 5
25. "Geography is an integrating discipline" Explain how geography is related to the natural and social sciences. 5
- 26 A. No rock on Earth is hard enough to resist weathering and erosion force Differentiate between physical and chemical weathering.
- OR**
- B. "It is now a well-accepted fact that oceans and continents will not continue to enjoy their present positions" Explain the features how these changes are happening on the basis of continental drift theory. 5
- 27 A. River water is the most dominating agent in shaping the earth's surface? Explain.
- OR**
- B. How do glaciers accomplish the work of reducing high mountains in to low hills. 5
- 28 A. The atmosphere consist of different layers with varying density and temperature. Draw a suitable diagram of the structure of atmosphere and describe it.
- OR**
- B. How are peninsular rivers are different from Himalayan rivers in terms of source, course, sedimentation and seasonal variations. 5

SECTION E

Question numbers 29 & 30 are Map based questions having 5 sub-parts each.

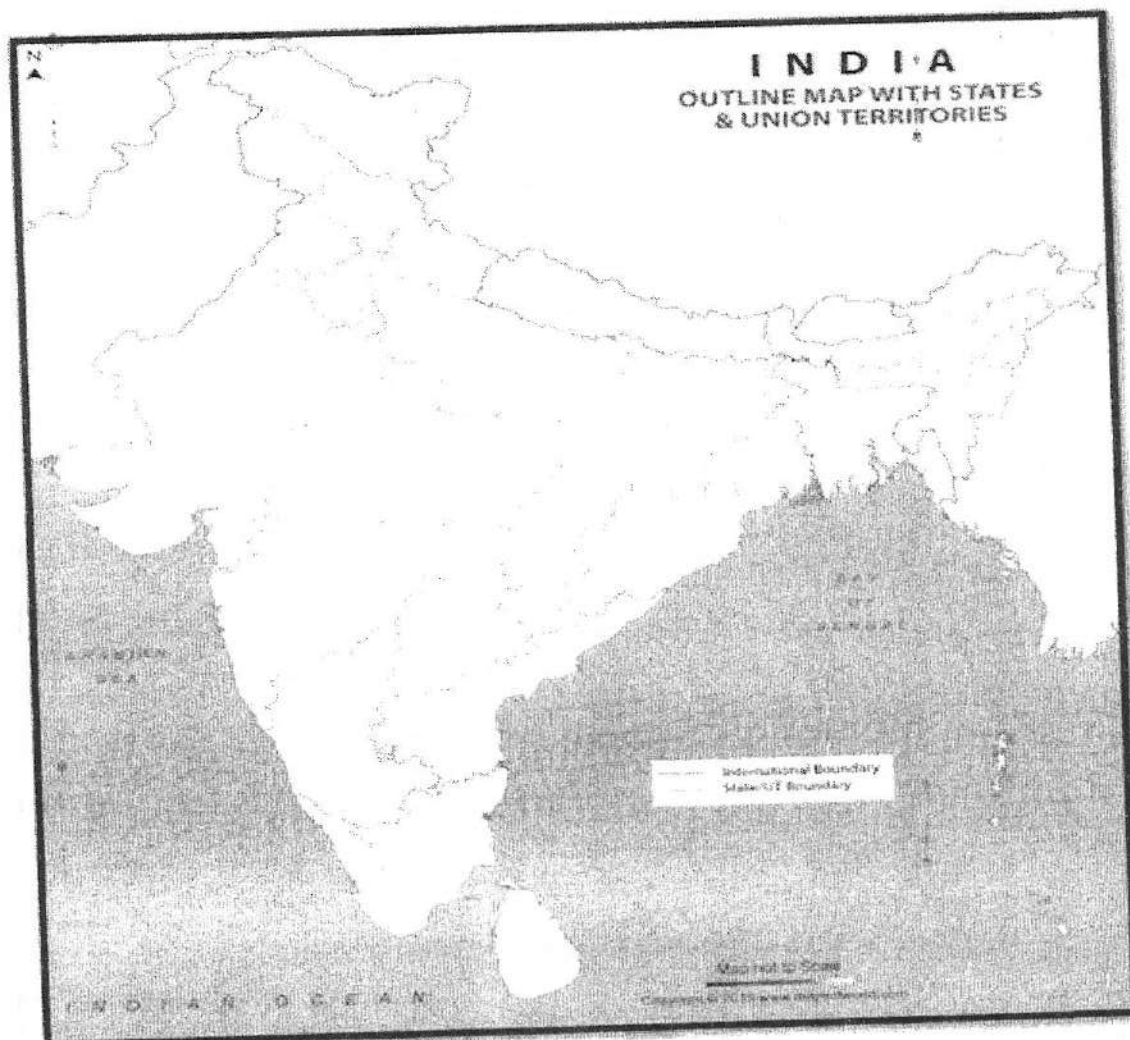
29. On the given political map of the World, seven geographical features have been marked as A, B, C, D, E, F and G. Identify any five with the help of the following information and write their correct names on the lines drawn near each feature. 5

A. Highest Peak of western ghat.	B. Coastal Plain	C. drainage basin of five river
D Mountain Range.	E. River.	F. State in India



30. Locate and label any five of the following geographical features on the Outline map of India with appropriate symbols:

A. Garo and Khasi hills	B. 68°7'E
C. Kanchenjunga	D. Eastern Ghat
E. Kaveri River	F. Sunderbans





GENERAL INSTRUCTIONS :

1. All questions are compulsory.
2. There are total 35 questions.
3. Question paper is divided into three sections-A, B and C.
4. Section A has question no.1 to 18 (Objective type questions) and are of 1 mark each.
5. Section B has question no. 19 to 25 of 2 marks each and question no.26 to 29 of 3 marks each.
6. Section C has question no.30 to 33 of 4 marks each and question no.34 and 35 are of 5 marks each.
7. Internal choices are given in some questions.
8. Support your answers with suitable examples wherever required.

SECTION A (OBJECTIVE TYPE QUESTIONS)

1. Cow dung is considered waste. However, it can be used to prepare humus (manure). Which characteristic of resources does this symbolise? 1
a) Accessibility b) Interchangeability c) Manageable d) Utility
 2. An adolescent fighting at home that he wants a bike because all his friends have one. This is the influence of: 1
a) Society b) Family c) Peer groups d) Teachers
 3. Reena lives in a village near Jabalpur and is ill since few days. On being tested, she has a deficiency of red cells in her blood. What is the name of this body condition? 1
a) Diabetes b) Anaemia c) Thyroid d) High blood pressure
 4. Yarns made up from staple fibres are known as: 1
a) Spun Yarn b) Filament Yarn c) Spiral Yarn d) Cord Yarn
 5. This type of communication includes normal talking to people face-to-face, in the telephone, in a meeting or conference, etc. The statement is referring to which type of communication? 1
a) Inter-personal communication
b) Verbal communication
c) Non-verbal communication
d) Organisational communication
 6. Which of the following will help a small room look larger? 1
a) Use of cool light colours. b) Use of large furniture, patterns and texture
c) Use of rough texture d) Place lighting as one chandelier
- OR**
- Milk and wheat products are the main source of:
7. Which among the following is seen as a critical time for identity development? 1
a) Childhood b) Adolescence c) Schooling d) None of these
 8. Identify the dimensions of time: 1
i) Work time ii) Exercise time iii) Rest and leisure time iv) Movie time
Choose the correct option:
a) I and II b) II and III c) I and III d) III and IV
 9. Match the following: 1

Fibres	Example
A. Mineral fibre	1. Spandex
B. Metal fibre	2. Silk
C. Animal fibre	3. Asbestos
D. Synthetic fibre	4. Stainless steel

Choose the correct option from the following:
a) A-3,B-4,C-2,D-1 b) A-1,B-3,C-4,D-2 c) A-2,B-1,C-3,D-4 d) A-4,B-2,C-1,D-3

10. Which of the following shows the steps for time management in the correct order?
- Make a schedule; Estimate how long each task will take; Prioritise; Make a list of everything that you have to do and want to do.
 - Make a list of everything that you have to do and want to do; Estimate how long each task will take; Prioritise; Make a schedule.

Choose the correct option:

- (a) Only II (b) Only I (c) Both I and II (d) Neither I nor II
- OR**

Match the following:

List I	List II
Nautanki	Bengal
Tamasha	Gujarat
Jatra	Uttar Pradesh
Bhavai	Maharashtra

Choose the correct option from the following:

- (a) A-1,B-2,C-3,D-4 (b) A-3,B-4,C-1,D-2 (c) A-2,B-3,C-4,D-1 (d) A-4,B-1,C-2,D-3

11. Match the following:

Principles of space planning	Meaning
A. Aspect	1. Placement of the rooms within house.
B. Prospect	2. It includes light, cleanliness, ventilation.
C. Sanitation	3. It is the look of house from outside.
D. Grouping	4. Arrangement of doors and windows.

Choose the correct option from the following:

- (a) A-1,B-2,C-3,D-4 (b) A-2,B-3,C-4,D-1 (c) A-4,B-3,C-2,D-1 (d) A-3,B-1,C-4,D-2

12. Given below are two statements labelled as Assertion (A) and reason (R).

ASSERTION (A) : Adolescence can be a period of isolation and frustration.

REASON(R) : There are increased conflicts between children and their family.

Select the most appropriate answer from the options given below:

- Both A and R are true and R is the correct explanation of A.
- Both A and R are true but R is not the correct explanation of A.
- A is true but R is false.
- A is false but R is true.

13. Given below are two statements labelled as Assertion (A) and reason (R).

ASSERTION (A) : Implementation involves the carrying out of plan.

REASON(R) : By this step, one uses the available resources to attain the goal.

Select the most appropriate answer from the options given below:

- Both A and R are true and R is the correct explanation of A.
- Both A and R are true but R is not the correct explanation of A.
- A is true but R is false.
- A is false but R is true.

CASE BASED QUESTIONS

Read the passage carefully and answer question no. 14 to 18

A woven fabric consists of two sets of yarns which are interlaced at right angles to each other, to form a compact construction. It is done on machines called looms. One set of yarns is fitted on the loom, which determines the length and width of the fabric to be woven. These are called warp yarns. The loom helps to maintain these yarns at a fixed tension and even space. The second yarn, which is the filling yarn, is then interlaced to form the fabric. The simplest interlacing is when the filling yarn moves over and under one warp yarn alternately in one row and reverses the process in the second row. By passing the filling yarn over and under different number of warp yarns, in a specified sequence, different designs can be created. Attachments like the dobby or jacquard to the loom can help to create figurative designs as well. These designs become clearer when different coloured yarns are used for warp and filling.

14. determines the length and width of the fabric to be woven.
- (a) Loom (b) Dobby (c) Warp yarn (d) Filling Yarn

15. To create figurative designs:

- (a) Attachments like dobby and jacquard can be used. (b) A loom can be upgraded.
- (c) Different coloured fabric can be used. (d) Warp and filling yarn can be dyed.

- | | |
|--|---|
| 16. Strength of Acrylic is similar to the strength of: | 1 |
| (a) Lycra (b) Polymer (c) Linen (d) Cotton | |
| 17. Production of good quality silk is called: | 1 |
| (a) Fleecing (b) Weaving (c) Ginning (d) Sericulture | |
| 18. Which of the following methods of garment construction is used to produce article which can be shaped while being constructed? | 1 |
| (a) Braiding (b) Knitting (c) Weaving (d) Inter Knotting | |

SECTION B (SHORT ANSWER QUESTIONS)

- | | |
|--|---|
| 19. Under what two conditions may a person require a higher level of nutrition than normal? | 2 |
| 20. How is interpersonal communication the most effective type of communication? | |
| OR | |
| What two concepts are related to the concept of self? | 2 |
| 21. List one biological property each of cotton and silk. | 2 |
| 22. What are the two aspects of physical fitness? | 2 |
| 23. Which of the two significant communication technologies acted as media and changed the communication scenario? Write about them. | 2 |
| 24. What are the community resources? | 2 |
| 25. Write down two features of increased complexity during the period of Middle Childhood. | 2 |
| OR | |
| Which manufactured fibre resembles "wool – a natural fibre"? Mention that one property which differs in both the fibres. | |
| 26. Define Communication. Give classification of Communication based on the type of interaction. | 3 |
| 27. What are the different stages of colour application? | 3 |
| 28. Mention the characteristics of self during early childhood. | 3 |
| 29. What are the three levels of health care? | 3 |
| OR | |
| Mention the aspects of a balanced diet. | |

SECTION C (LONG ANSWER QUESTIONS)

- | | |
|---|---|
| 30. What are the characteristics of resources? | 4 |
| 31. How good standing and sitting postures help in work simplification. | 4 |
| 32. Define manufactured fibres. What are the steps for converting the raw material into the fibrous form in manufacturing of fibres? | 4 |
| OR | |
| What are the factors that affect the nutritional well-being of an individual? | |
| 33. a) What is the first step in the process of management? | 4 |
| b) Which one is the final stage in the management process? How helpful is the final stage of planning in order to make the plan more effective? | |
| 34. Draw the SMCRE model of communication. Explain the steps of communication in the SMCRE model of communication. | 5 |
| OR | |
| Mention any five functions of media. | |
| 35. Give the guidelines for using the basic food groups. (Any 5) | 5 |



DELHI PUBLIC SCHOOL, BHILAI

Date : 12.09.2023

FIRST TERMINAL EXAMINATION - 2023

Time : 50 Minutes

Class : XI

Subject : General Knowledge

Max. Marks : 50

Name of the student: _____
Invigilator's Signature _____

Class/Sec. _____ Roll No. _____
Marks obtained : ____/50

General Instructions:

- All questions are compulsory. Answer all the questions by writing the correct option number in the space provided.
- The question paper consists of 2 pages.
- There are 50 questions.
- Each question carries 1 mark.

- Q.1 'Dreams from my Father' is a New York bestselling autobiography of
(a) Theodore Roosevelt (b) Harry S. Truman (c) Barack Obama (d) Bill Clinton ☐
- Q.2 Who wrote the book India Wins Freedom?
(a) Akhilesh Tilotia (b) Amitav Ghosh (c) Abdul Kalam Azad (d) A. B. Vajpayee ☐
- Q.3 What was the original name of renowned Hindi and Urdu writer Munshi Premchand?
(a) Prem Das (b) Dhanpat Rai Shrivastava (c) Khwaja Ahmed (d) None of these ☐
- Q.4 Who wrote the "Panchatantra"?
(a) Vishnu Sharma (b) Chanakya (c) Kālidāsa (d) Narayan Pandit ☐
- Q.5 'The Argumentative Indian' is written by:
(a) V.S. Naipaul (b) Rohinton Mistry (c) Prof. Amartya Sen (d) Amitav Ghosh ☐
- Q.6 Tweedledum and Tweedledee are two characters of which Children's book?
(a) Alice in Wonderland (b) Treasure Island (c) Kidnapped (d) Lord of the Rings ☐
- Q.7 Shakespeare's four greatest tragedies are Macbeth, Othello, Hamlet and _____.
(a) A Midsummer Night's dream (b) King Lear
(c) The Taming of the Shrew (d) As You Like It ☐
- Q.8 What is the meaning of the phrase 'Mein Kampf' in Hitler's autobiography of the same name?
(a) My Camp (b) My Home (c) My Struggles (d) My Country ☐
- Q.9 Mr. Freeze is the enemy of a famous superhero of a comic book. What is the name of that superhero?
(a) Spiderman (b) Superman (c) Batman (d) Ironman ☐
- Q.10 Find the missing word in the best selling book by Barack Obama : 'The Audacity of ____'.
(a) Hope (b) Life (c) Planning (d) Birth ☐
- Q.11 Who was the first woman in the council of ministers of Chhattisgarh state?
(a) Pratibha Shah (b) Geeta Devi Singh (c) Phulo Devi Netam (d) Shyama Dhruv ☐
- Q.12 Where is the Bailadila iron project situated?
(a) Bachel (b) Bastar (c) Raigarh (d) Raipur ☐
- Q.13 Which is the city of temples in C.G.?
(a) Dongargarh (b) Rajim (c) Ratanpur (d) Arang ☐
- Q.14 The only jute industry of C.G. is located in _____.
(a) Raigarh (b) Koriya (c) Jashpur (d) Ambikapur ☐
- Q.15 The famous Chitrakote waterfall in C.G. is situated in _____.
(a) Baghel khand plateau (b) Chhattisgarh basin (c) Jashpur-Samri region (d) Dandkaranya region ☐
- Q.16 In which of the following districts is the maximum iron ore produced in C.G.?
(a) Rajnandgaon (b) Bastar (c) Koriya (d) Mahasamund ☐
- Q.17 On which of the following rivers is the Mini Mata Project situated?
(a) Mahanadi (b) Hasdeo (c) Eb (d) Shivnath ☐
- Q.18 Where is the Bamleshwari temple situated?
(a) Dongargarh (b) Bishrampur (c) Antagarh (d) Dantewada ☐
- Q.19 Where is the South-East Coalfields situated?
(a) Jagdalpur (b) Bilaspur (c) Korba (d) Raipur ☐
- Q.20 In which festival of Bastar is the Dandari dance performed ?
(a) Diwali (b) Navakhani (c) Holi (d) Gawa ☐
- Q.21 Electromagnetic waves which are used for satellite communication are _____.
(a) Radio waves (b) Infrared radiation (c) X-rays (d) Ultra violet rays ☐
- Q.22 Which of the following are used to measure very short intervals of time accurately?
(a) Atomic clocks (b) Pulsar (c) While Vamara (d) Chronoscope ☐

- Q.23 What is the study of Fungus called ?
 (a) Mycology (b) Palynology (c) Bryology (d) Phycology
- Q.24 Which molecule in plants is similar to Haemoglobin in animals?
 (a) Carotene (b) Cellulose (c) Cytochrome (d) Chlorophyll
- Q.25 Which device converts computer output to be transmitted over telephone lines?
 (a) Interface (b) Modem (c) Browser (d) Transformer
- Q.26 'Conjunctiva' is a tissue layer present in which part of the body?
 (a) Heart (b) Lungs (c) Eye (d) tongue
- Q.27 What is the process of removing securities of a listed company from a stock exchange?
 (a) Delisting (b) White-listing (c) Black-listing (d) Stock-listing
- Q.28 Which institution has released the guidelines on Corporate Debt Market Development Fund?
 (a) RBI (b) SEBI (c) Finance Ministry (d) BSE
- Q.29 Which of the following determines the poverty line in India?
 (a) Union cabinet (b) Lok Sabha (c) NITI Aayog (d) Rajya Sabha
- Q.30 A closed economy is one in which _____
 (a) Money supply is completely controlled (b) Only export takes place
 (c) There is deficit financing (d) Neither export nor import takes place
- Q.31 Which festival has been included in the list of intangible cultural heritage of humanity by UNESCO?
 (a) Onam (b) Durga Puja (c) Diwali (d) Janmashtmi
- Q.32 Who is the first Indian Fencer to win a medal at the Asian Championships?
 (a) Bhavani Devi (b) Kavitha Devi (c) Daina Devi (d) Kaushik Vedika
- Q.33 The recently concluded Janjatiya Khel Mahotsava was held at _____?
 (a) Pune (b) Lucknow (c) Ranchi (d) Bhubaneswar
- Q.34 Which team did Australia defeat to win the 2023 Women's T20 World Cup?
 (a) South Africa (b) England (c) New Zealand (d) India
- Q.35 Which country is the host of Asian Games, 2023?
 (a) India (b) China (c) Bangladesh (d) Japan
- Q.36 Who became the first female to be appointed to the ICC International Panel of Match Referees ?
 (a) GS Lakshmi (b) Diana Edulji (c) Jhulan Goswami (d) Sudha Shah
- Q.37 Where are 2023 World Athletic Championships going to be held?
 (a) Glasgow (b) Budapest (c) Eugene (d) Beijing
- Q.38 The fastest Indian Bowler to complete 50 wickets in T20 Internationals is _____
 (a) Jasprit Bumrah (b) Kuldeep Yadav (c) Yuzvendra Chahal (d) Mohammed Shami
- Q.39 'For The Benefit Of All' is the slogan of which agency in the world?
 (a) SpaceX (b) ESA (c) NASA (d) ROSCOSMOS
- Q.40 Who is partnering India in the 'City Next' initiative for sustainable growth of cities in India?
 (a) Tesla (b) Google (c) Amazon (d) Microsoft
- Q.41 The largest floating solar plant is being built on which of the following rivers?
 (a) Mahanadi (b) Narmada (c) Yamuna (d) Cauvery
- Q.42 INDIAai has signed MoU with which company for mutual cooperation in the realm of artificial intelligence (AI)?
 (a) samsung (b) apple (c) meta (d) google
- Q.43 Benisagar, which is in the news recently, is a place located in which state?
 (a) Jharkhand (b) Maharashtra (c) Gujarat (d) Haryana
- Q.44 NASA is using rocks from Isle of Rum to practice testing methods for examining Martian rocks. In which country is the Isle of Rum located ?
 (a) Scotland (b) Australia (c) Philippines (d) Japan
- Q.45 Which Indian city was the host of the 'Semicon India 2023 conference'?
 (a) Mumbai (b) Pune (c) Bengaluru (d) Gandhi Nagar
- Q.46 Which state/UT has approved 'Water Tourism and Adventure Sports Policy, 2023'?
 (a) Gujarat (b) Maharashtra (c) Uttar Pradesh (d) Goa
- Q.47 Who has been conferred the Lokmanya Tilak National Award in 2023?
 (a) Draupadi Murmu (b) Narendra Modi (c) Amit Shah (d) Ratan Tata
- Q.48 Where will the 71st edition of the 'Miss World pageant 2023' be held?
 (a) Australia (b) Venezuela (c) France (d) India
- Q.49 'Hamar Sughar Laik Abhiyan' has been launched by which Indian state in May 2023?
 (a) Chhattisgarh (b) Maharashtra (c) Bihar (d) Odisha
- Q.50 India and which country are collaborating under the Kaziranga Project in Assam state?
 (a) South Africa (b) France (c) Tanzania (d) Argentina



DELHI PUBLIC SCHOOL, BHILAI

Date : 25.09.2023

MIDTERM EXAMINATION - 2023

Time : 3 Hrs.

Class : XI

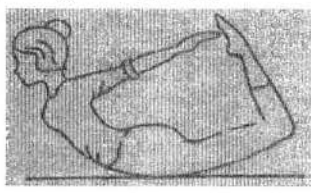
Subject : Physical Education

Max. Marks : 70

General Instructions :

- The question paper consists of 5 sections and 34 questions.
- Section A** consists of Question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
- Section B** consists of questions 19-23 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. There is internal choice available.
- Section C** consists of question 24-28 carrying 3 marks each and are short answer types and should not exceed 100-150 words. There is internal choice available.
- Section D** consists of Question 29-31 carrying 4 marks each and are case studies.
- Section E** consists of Question 32-34 carrying 5 marks each and are short answer types and should not exceed 200-300 words. There is internal choice available.

Section : A

- Q.01 What is the aim of Physical Education?
(a) Physical development (b) Psychological development
(c) Motor development (d) All of these
- Q.02 Under 21 is the age criteria to participate in Khelo India
(a) youth games (b) school games (c) institute games (d) Both (b) and (c)
- Q.03 The Olympic Games were revived in
(a) 1890 (b) 1996 (c) 1896 (d) 1904
- Q.04 In which year, the first Olympic was organised?
(A) 776 BC (b) 1924 (c) 1910 (d) 1890
- Q.05 Identify the given asana.

- (a) Bhujangasana (b) Dhanurasana (c) Makrasana (d) Padmasana
- Q.06 Yogic Kriyas are mainly employed for :
(a) Strengthening of muscles (b) Increasing Joints Movement
(c) Relaxation (d) Purification of body system
- Q.07 Adaptive Physical Education is for
(a) school students (b) college students (c) CWSN (d) girls only
- Q.08 Which organ is benefitted from Tratak Kriya?
(a) Liver (d) Kidneys (c) Digestive System (d) Eyes
- Q.09 Who launched Khelo India App?
(a) The President (b) The Prime Minister (c) The Sports Minister (d) The Education Minister
- Q.10 The Olympic Anthem was composed by :
(a) Barron Perre de Coubertin (b) Narinder Dhruv
(c) Demetrios Vikelas (d) Spyridon Smaras
- Q.11 Swadhyay means
(a) Selfishness (b) Introspection (c) Purity (d) Contentment
- Q.12 Match List I with List II and select the answer from the code given below:

S.No.	List I	S.No.	List II
	Professional		Area on which the Professional works
(i)	Special Educator	1.	Helps to improve speech disorder of a child with special need.
(ii)	Speech Therapist	2.	Helps to improve muscle strength and endurance of a child with special need.
(iii)	Physiotherapist	3.	Helps to develop motor skills and anger management skills in a child with special need.
(iv)	Occupational Therapist	4.	Assesses academic, social and behavioural development of a child with special need.

	Code			
	(i)	(ii)	(iii)	(iv)
(a)	1	2	3	4
(b)	4	1	2	3
(c)	3	2	4	1
(d)	2	4	1	2

- Q.13 The is concerned with the development of motor, sensory and visual skills of a child with special needs.
(a) Physiotherapist (b) Occupational Therapist (c) Speech Therapist (d) Counsellor
- Q.14 The motto of Olympics is :
(a) Citius, Altius, Fortius (b) Per Ludos Aequalitas (c) Sprit in Motion (d) ASEAN
- Q.15 Puraka, Rechaka and Kumbhaka are the components of
(a) Pranayama (b) Yogic-Kriyas (c) Yoga (d) Yog-Nidra
- Q.16 Which of the following is the symptom of ADHD?
(a) The person may be oversensitive or under sensitive to certain situations.
(b) The person has flickering mind and extremely impatient.
(c) The person has frequent outbursts of anger and resentment.
(d) The person has repeated temper tantrums.
- Q.17 Given below are two statement labelled Assertion (A) and Reason (R).
Assertion (A) : Children with disabilities have special need.
Reason (R) : These children are not able to participate in regular physical exercise and activities.
- In the context of above the two statements, which one of the following is correct?
Codes :
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).
(c) (A) is true, but (R) is false.
(d) (A) is false, but (R) is true.
- Q.18 Musculoskeletal and neuromuscular are the two categories of disability.
(a) Cognitive (b) Intellectual (c) Physical (d) Sensory

Section : B

- Q.19 How will you manage stress through yoga ?
- Q.20 Enlist any five protective gears in sports.
- Q.21 Define Ashtanga Yoga.
- Q.22 What is the full form of (i) ODD (ii) ASD
- Q.23 Write notes on the Olympic flame.

OR

List any two objectives for organising the Modern Olympic Games.

Section : C

- Q.24 What type of jobs are available in sports media and communication?
- Q.25 List the aims and objectives of Adaptive Physical Education.
- Q.26 Write short note on active lifestyle.
- Q.27 Enlist the roles of International Sports Federation (IFS).
- Q.28 Explain briefly disability etiquettes.

OR

List the various career options in the field of Physical Education. Explain **any one**.

Section : D

- Q.29 What is meditation? What are the advantages of practising meditation.
- Q.30 Write a note of the opening and closing ceremonies of the Modern Olympics.
- Q.31 In relation to the given picture, answer the following questions.



- (i) When did the Fit India Movement was launched?
- (ii) The mission of the Fit India Movement was
- (iii) What is the main Motto of Fit India Movement?
- (iv) The had launched the Fit India Movement in India.

Section : E

- Q.32 Explain the five functions of National Olympic Committee.
- Q.33 Describe the Khelo India Programme.
- Q.34 Explain any five elements of yoga.
- OR**
- Describe any two types of disorders and disabilities and their causes.