HOLIDAY HOMEWORK CLASS-XII-Science SESSION:2024-25

New session, new books and new friends have kept the kids buzzing for a while and now the much awaited vacation is here! Summer break is the best time of the year for parents and children alike. While parents get to spend the maximum time with their young ones during this period; for kids, it's time for family bonding, lots of ice cream, time to visit grandparents and getting pampered to no end.

Keeping this in mind, the subject wise assignments given as holidays homework have been planned with the view to make the optimum use of youngsters' energy and give a vent to their creativity so that the process of learning continues during the vacation as well. Parents' support and encouragement is sought to ascertain that the budding minds take out some time from long summer days and switch on the search energy of their minds in exploring and learning.

We hope that the students enjoy these holidays thoroughly in a way that they inculcate some values, virtues, and knowledge in the bargain!!!!

GENERAL INSTRUCTIONS

- Assignments should be done neatly by taking printouts on A4 sheets.
- After completion of assignments, paste it in respective subject notebook.
- The work should be original and not copied from Internet.
- The assignments should be submitted to respective subject teacher.
- The holiday homework would be marked out of 10 marks for each subject.
- Projects files to be compiled in the ring file and it should be properly covered.
- Models should be strictly made on the guidelines prescribed.
- Holiday homework should be submitted on 8thjuly i.e. Monday.

NOTICE:-

The school will be closed for summer vacation from May 30, 2024, to July 3, 2024. It will reopen on July 4, 2024, with the same school timings.

SUMMER HOLIDAYHOMEWORK(2024-25)

CLASS: XII-Science

Subject	Holidays Homework
English	Project Instructions: Grade XII Individual Projects A. Introduction: Dear Grade XII Students, Welcome to your individual project assignments. It's crucial to engage in meaningful projects that enhance your understanding and skills. Each of you will be working on an individual project based on a specific topic. These projects will culminate in a presentation to the class. B. Project Topics: - Roll Numbers 1-5: Topic 1 – The Last Lesson - Roll Numbers 6-10: Topic 2 – The Lost Spring - Roll Numbers 11-15: Topic 3 – Deep Water - Roll Numbers 16-20: Topic 4 – My Mother At Sixty-six - Roll Numbers 21-25: Topic 5 – Keeping Quiet - Roll Numbers 26-30: Topic 6 – The Third Level - Roll Numbers 31-35: Topic 7 – The Tiger King C. Project Details: - Topic 1 – The Last Lesson: - Elaborate on themes of Linguistic Chauvinism, Procrastination, and the Importance of Time Management. - Collect data on countries where these tendencies are prevalent. - Discuss the importance of one's mother tongue in reference to the prescribed chapter. - Topic 2 – The Lost Spring: - Explore how children are engaged in various kinds of work below the age of 14. - Collect information on the biggest slums. - Topic 3 – Deep Water: - Share a personal experience of a fear that haunted you. - Describe how you overcame that fear. - Topic 4 – My Mother At Sixty-six: - Explain the importance of parents in the family. - Discuss how you love and care for your mother. - Share your opinion about the condition of old age homes in your country. - Topic 5 – Keeping Quiet: - Identify reasons for environmental degradation. - Discuss the extent to which humans are harming the Earth.

- Focus on the relevance of meditation and introspection in combating these issues.

- Topic 6 – The Third Level:
  - Analyze why 'hurry and worry' are trademarks of modern life.
  - Explore the sense of insecurity prevalent in modern life and why individuals seek to escape it.
  - Highlight the problems faced by students in virtual platforms, such as stress, fear, and anxiety.

- Topic 7 – The Tiger King:
  - Speech for 'Save the Tiger' Campaign:
    - Craft a speech as an ardent environmentalist advocating for the 'Save the Tiger' campaign.
    - Emphasize the importance of youth involvement in such initiatives.
  -*Views on Bribery in The Tiger King:
    - Reflect on the act of bribery committed by the king to save his kingdom.
    - Share your perspective on this action and its ethical implications.

Assignments

CH-1(THE LAST LESSON)

Q1.

I started for school very late that morning and was in great dread of a scolding, especially because M. Hamel had said that he would question us on participles, and I did not know the first word about them. For a moment, I thought of running away and spending the day out of doors. It was so warm, so bright! The birds were chirping at the edge of the woods; and in the open field back of the sawmill the Prussian soldiers were drilling.

(a) Alphonse Daudet, the author of 'The Last Lesson' was a ..... novelist and short story writer.

(i) Spanish

(ii) German

(iii) French

(iv) Austrian

(b) Franz was late and wanted to skip going to school as he dreaded

(i) beating from M. Hamel

(ii) scolding from the teacher

(iii) taunts from his classmates

(iv) scolding from parents

(c) What would have M. Hamel questioned Franz about?

(i) adjectives

(ii) writing skills

(iii) the previous days' activities

(iv) participles

(d) Which of the outdoor activities were tempting Franz more than attending school that day?

(i) chirping of the birds

(ii) the drill practice by Prussian soldiers

(iii) both (i) and (ii)

(iv) children playing outside

Q2.

I thought he was making fun of me, and reached M. Hamel's little garden all out of breath. Usually, when school began, there was a great bustle, which could be heard out in the street, the opening and closing of desks, lessons repeated in unison, very loud, with our hands over our ears to understand better, and the teacher's great ruler rapping on the table. But now it was all so still! I had counted on the commotion to get to my desk without being seen; but, of course that day everything had to be as quiet as Sunday morning.

(a) 'I thought he was making fun of me.' Who is Franz referring to here?

(i) the blacksmith Wachter
(ii) the gardener
(iii) the old Hauser
(iv) his teacher

(b) The expression 'out of breath' means

(i) exhaled breath
(ii) excess breath
(iii) feeling short of breath
(iv) respiratory failure

(c) What were the pointers to a great bustle in the school?

(i) the opening and closing of desks
(ii) teacher's great ruler rapping on the table
(iii) lessons repeated in loud unison
(iv) all the above

(d) What was Franz banking upon to go to his seat unnoticed?

(i) the fight in the class
(ii) teacher's absence
(iii) the commotion in the class
(iv) by tip-toeing in the class

Q3.

I jumped over the bench and sat down at my desk. Not till then, when I had got a little over my fright, did I see that our teacher had on his beautiful green coat, his frilled shirt, and the little black silk cap, all embroidered, that he never wore except on inspection and prize days. Besides, the whole school seemed so strange and solemn. But the thing that surprised me most was to see, on the back benches that

were always empty, the village people sitting quietly like ourselves; old Hauser, with his three-cornered hat, the former mayor, the former postmaster and several others besides.

(a) 'Got a little over his fright' means that Franz

(i) was still feeling frightful
(ii) had overcome his fright
(iii) was out of his wits
(iv) all of the above

(b) Besides, the whole school seemed so

(i) noisy and scary
(ii) messy and strange
(iii) queer and in ruins
(iv) strange and solemn

(c) What struck Franz the most about M. Hamel that day which was quite different was

(i) his formal attire
(ii) his mannerisms
(iii) his behaviour
(iv) all of the above

(d) Who were sitting on the back benches on the last day of the lesson?

(i) parents
(ii) village people
(iii) only young children
(iv) other staff members

Q4.

While I was wondering about it all, M Hamel mounted his chair, and, in the same grave and gentle tone which he had used to me, said, "My children, this is the last lesson, I shall give you. The order has come from Berlin to teach only German in the schools of Alsace and Lorraine. The new master comes tomorrow. This is your last French lesson. I want you to be very attentive."

What a thunderclap these words were to me!

Oh, the wretches; that was what they had put up at the town hall!

(a) What was Franz wondering about as mentioned in the first line?

(i) about M. Hamel's behaviour
(ii) about the turn of events
(iii) both (i) and (ii)
(iv) about his study of participles

(b) From where did the orders come to teach only German in the schools of Alsace and Lorraine?

(i) Paris
(ii) Spain
(iii) London
(iv) Berlin

(c) Which words were a thunderclap to Franz?

(i) This is your last French lesson.
(ii) I want you to be very attentive.
(iii) The order has come from Berlin.
(iv) None of the above

(d) What had been put up on the bulletin board that day the

realization of which hit Franz in the class?
(i) Only French will be taught.
(ii) German will take over French in the schools.
(iii) Everyone will speak only English.
(iv) A third language will be introduced.

Q5.
Poor Man! It was in honour of this last lesson that he had put on his fine Sunday clothes and now I understood why the old men of the village were sitting there in the back of the room. It was because they were sorry, too, that they had not gone to school more. It was their way of thanking our master for his forty years of faithful service and of showing their respect for the country that was theirs no more.
(a) Who is the poor man being referred to here?
(i) old Hauser
(ii) a villager
(iii) the apprentice
(iv) M. Hamel
(b) For how many years had the master served the school?
(i) 20 years
(ii) 10 years
(iii) Q0 years
(iv) 30 years
(c) What made the villagers come to meet M. Hamel in the school that particular day?
(i) to bid goodbye
(ii) to express their gratitude
(iii) to have a meeting
(iv) to gossip with the teacher
(d) What does the lesson 'The Last Lesson' signify?
(i) importance of one's language and freedom
(ii) loss of one's mother tongue
(iii) loss of speech
(iv) loss of freedom

Q6.
I heard Mr. M. Hamel say to me, "I won't scold you, little Franz; you must feel bad enough. See how it is! Every day we have said to ourselves, 'Bah! I've plenty of time. I'll learn it tomorrow. And now you see where we have come out. Ah, that's the great trouble with Alsace; she puts off learning till tomorrow. Now those fellows out there will have the right to say to you, 'How is it; you pretend to be Frenchmen and you can neither speak nor write your own language?' But you are not the worst, poor little Franz.
We have all a great deal to reproach ourselves with."
(a) "I have plenty of time. I will learn it tomorrow.' What trait does it reflect of the people of Alsace?
(i) putting off things
(ii) procrastination
(iii) postponing matters
(iv) all of the above
(b) M. Hamel's tone and tenor while speaking is filled with
(i) eagerness

(ii) regret
(iii) pleasure
(iv) sorrow

(c) In the above extract, what is Hamel trying to emphasize on?

(i) freedom of expression
(ii) importance of a language
(iii) importance of one's mother tongue
(iv) all of the above

(d) "We have all a great deal to reproach ourselves with." By saying this, Hamel is holding ..... responsible.

(i) himself
(ii) parents
(iii) parents and himself
(iv) none

Q7.

Then, from one thing to another, M. Hamel went on to talk of the French language, saying that it was the most beautiful language in the world—the clearest, the most logical: that we must guard it among us and never forget it, because when a people are enslaved, as long as they hold fast to our language it is as if they had the key to their prison. Then he opened a grammar and read us our lesson. I was amazed to see how well I understood it. All he said seemed so easy, so easy!

(a) What made M. Hamel praise the French language so much?

(i) Because he is a French citizen.
(ii) Because he is in love with the language.
(iii) Because it is the clearest and most logical.
(iv) Because he teaches the language.

(b) How does M. Hamel make the people of the district realize the preciousness of their mother tongue?

(i) after the sudden orders from Berlin
(ii) by being emotional
(iii) by giving them a long lecture
(iv) all of the above

(c) If the people are enslaved, what will hold the key to their prison?

(i) lock
(ii) hammer
(iii) their behaviour
(iv) their language

(d) After listening to the Grammar lesson, what was Franz's observation?

(i) he felt repentant
(ii) he felt It was not worth the effort
(iii) he was amazed at how easy it all was
(iv) he disliked the rules of grammar

Q8.

Fancy! For forty years he had been in the same place, with his garden outside the window and his class in front of him, just like that. Only the desks and the windows had been worn smooth; the walnut-trees in the garden were taller, and the hopvine that he had planted himself twined

about the windows to the roof. How it must have broken his heart to leave it all, poor man: to hear his sister moving about in the room above, packing their trunks! For they must leave the country next day.

(a) For forty years, he had been in the same place. What trait of M. Hamel's personality, does it bring out?

(i) laziness to shift
(ii) loyalty
(iii) stubbornness
(iv) all of the above

(b) What indicates the passage of time?

(i) the growth of walnut trees
(ii) hopvine twined about the windows to the roof
(iii) both (i) and (ii)
(iv) the desks and benches had been worn smooth

(c) What was the kind of atmosphere prevailing at this time in the school and particularly in Franz's classroom?

(i) villagers were feeling sorry
(ii) atmosphere was emotionally charged
(iii) there was a feeling of regret
(iv) all of the above

(d) Packing their trunks and moving about in the room above was Mr. M. Hamel's

(i) mother
(ii) sister
(iii) helper
(iv) father

Q9.

All at once the church-clock struck twelve. Then the Angelus. At the same moment, the trumpets of the Prussians, returning from drill, sounded under our windows. M. Hamel stood up, very pale, in his chair.

I never saw him look so tall.

"My friends," said he, "I—I—" But something choked him. He could not go on.

(a) The Angelus prayer is said

(i) in the morning, noon and at sunset
(ii) in the morning and evening
(iii) only in the morning
(iv) at noon and sunset

(b) I never saw him look so tall. This expression means

(i) he looked taller than before
(ii) he had a good height
(iii) dignified and great
(iv) shy and quiet

(c) He could not complete what he wanted to say. What sea of emotions was he going through?

(i) exhorted the people to love their language
(ii) his last message had love, respect and loyalty for his country
(iii) his voice choked and he couldn't go on
(iv) all the above

(d) How can a linguistic minority in a state keep their language alive?

(i) by writing
(ii) by safeguarding their language in every possible way.
(iii) by conversing in that language
(iv) none of the above

Q50.
Then he turned to the blackboard, took a piece of chalk, and, bearing on with all his might, he wrote as large as he could
"Vive La France!"
Then he stopped and leaned his head against the wall, and, without a word, he made a gesture to us with his hand—
"School is dismissed—you may go."
(a) "Vive Live France" means
(i) France is great
(ii) learn French
(iii) French cuisine is famous
(iv) Long Live France
(b) The author of the lesson belonged to which country?
(i) England
(ii) France
(iii) Canada
(iv) New Zealand
(c) "He made a gesture and couldn't speak." What does it tell the reader about M. Hamel?
(i) he was proud of being a French national
(ii) his ideas that one's mother tongue binds people together
(iii) his loyalty towards his country
(iv) all the above
(d) Alphonse Daudet belonged to
(i) New Zealand
(ii) Greece
(iii) Austria
(iv) France

CH-2(LOST SPRING)

Q1.
My acquaintance with the barefoot ragpickers leads me to Seemapuri, a place on the periphery of Delhi yet miles away from it, metaphorically. Those who live here are squatters who came from Bangladesh back in 1971, Saheb's family is among them. Seemapuri was then a wilderness. It still is, but it is no longer empty. In structures of mud, with roofs of tin and tarpaulin, devoid of sewage and drainage or running water, live 10,000 ragpickers.
(a) The extract has been taken from a chapter whose tagline is
(i) stories of childhood
(ii) stories of Robinhood
(iii) stories of stolen childhood
(iv) stories of innocent children

	(b) Where is Seemapuri located? (i) East Delhi (ii) North Delhi (iii) West Delhi (iv) South Delhi (c) What is the means of survival of the 10,000 in Seemapuri? (i) farming (ii) ragpicking (iii) delivering food (iv) setting up stalls (d) Seemapuri was then a wilderness. What does this sentence indicate about Seemapuri? That it was ..... . (i) beautiful (ii) in ruins (iii) uninhabited, no human activity (iv) filled with greenery Q2. “If at the end of the day, we can feed our families and go to bed without an aching stomach, we would rather live here than in the fields that gave us no grain,” say a group of women in tattered saris when I ask them why they left their beautiful land of green fields and rivers. Wherever they find food, they pitch their tents that become transit homes. Children grow up in them, becoming partners in survival. And survival in Seemapuri means ragpicking. Through the years, it has acquired the proportions of a fine art. (a) What gives the group of women the satisfaction that makes them resolute to continue staying where they are? (i) that they don’t have to beg (ii) their families don’t sleep hungry (iii) they have plenty of clothes (iv) all of the above (b) Which place having beautiful green fields and rivers, have the women left behind? (i) Lahore (ii) Puducherry (iii) Kathmandu (iv) Dhaka (c) Through the years, it has acquired the proportions of a fine art. What does ‘it’ represent in the text? (i) painting the canvas (ii) cutting the paddy (iii) the art of ragpicking

(iv) the art of cooking
(d) What do transit homes stand for?
(i) temporary shelters
(ii) orphanages
(iii) old age homes
(iv) none of the above

Q3.
This morning, Saheb is on his way to the milk booth. In his hand is a steel canister. “I now work in a tea stall down the road.” he says, pointing in the distance. “I am paid 800 rupees and all my meals.” Does he like the job? I ask. His face, I see, has lost the carefree look. The steel canister seems heavier than the plastic bag he would carry so lightly over his shoulder. The bag was his. The canister belongs to the man who owns the tea shop. Saheb is no longer his own master!
(a) What change has come about in the life of Saheb?
(i) He has started going to a school.
(ii) He looks well-fed now.
(iii) He has started working in a tea stall.
(iv) He has got tennis shoes.
(b) ‘He has lost the carefree look’ means
(i) when he was a ragpicker, he was carefree.
(ii) he could do what he chose.
(iii) both (i) and (ii)
(iv) he keeps falling sick frequently
(c) What does the title ‘Lost Spring’ symbolize?
(i) the spring season
(ii) lost wealth
(iii) lost health
(iv) the lost childhood
(d) The steel canister seems heavier than the plastic bag he would carry so lightly over his shoulders. State the figure of speech used here.
(i) hyperbole
(ii) contrast
(iii) metaphor
(iv) simile

Q4.
“I will learn to drive a car,” he answers, looking straight into my eyes. His dream looms like a mirage amidst the dust of streets that fill his town in Firozabad, famous for its bangles. Every other family in Firozabad is engaged in making

bangles. It is the centre of India's glass-blowing industry where families have spent generations working around furnaces, welding glass, making bangles for all the women in the land it seems.
(a) Who is keen to learn driving in the extract?
(i) Saheb
(ii) Mukesh
(iii) author
(iv) Mukesh's father
(b) His dreaming big amidst the dusty streets of Firozabad has been compared to a
(i) shadow
(ii) canvas
(iii) illusion
(iv) vision
(c) What is done in the glass-blowing industry?
(i) glass is broken
(ii) window panes are made
(iii) glass is moulded
(iv) glass is moulded and made into colourful bangles
(d) The Town of Firozabad is famous for
(i) serving good cuisine
(ii) the glass-blowing industry
(iii) its carpets
(iv) its jute products

Q5.
"Can a god-given lineage ever be broken?" she implies. Born in the caste of bangle makers, they have seen nothing but bangles—in the house, in the yard, in every other house, every other yard, every street in Firozabad. Spirals of bangles-sunny gold, paddy green, royal blue, pink, purple, every colour born out of the seven colours of the rainbow—lie in mounds in unkempt yards, are piled on four-wheeled handcarts pushed by young men along the narrow lanes of the shanty towns.
(a) What is the god-given lineage, according to the grandmother?
(i) the art of bangle making
(ii) carpentry
(iii) the art of pottery
(iv) the art of drawing
(b) Sunny-gold, paddy green, royal blue, pink, purple------ What are all these referring to?
(i) crops

(ii) fruits
(iii) birds
(iv) bangles
(c) The shanty town referred to where the bangle industry flourishes is the town of
(i) Ferozgarh
(ii) Firozabad
(iii) Faridabad
(iv) Farukhabad
(d) The frail woman in Mukesh's house is his
(i) grandmother
(ii) mother
(iii) elder brother's wife
(iv) sister

Q6.
The cry of not having money to do anything except carry on the business of making bangles, not even enough to eat, rings in every home. The young men echo the lament of their elders. Little has moved with time, it seems, in Firozabad. Years of mind-numbing toil have killed all initiative and the ability to dream.
(a) What forces the workers of the bangle industry to live in perpetual poverty?
(i) their destiny and karam
(ii) ancestral profession
(iii) the middle men, politicians, police, etc
(iv) all the above

(b) 'Little has moved with time' means
(i) a lot has changed with time
(ii) things have remained unchanged with time
(iii) only a little bit has changed
(iv) all the above

(c) Explain 'mind-numbing toil'.
(i) physical hard work
(ii) excessively boring/lacking interest
(iii) mind-boggling
(iv) creative work

(d) Whose initiative and the ability to dream has been killed?
(i) of the children
(ii) of the youth
(iii) of the elders too

	(iv) all the above Q7. “Why not organize yourselves into a cooperative?” I ask a group of young men who have fallen into the vicious circle of middlemen who trapped their fathers and forefathers. “ Even if we get organized, we are the ones who will be hauled up by the police, beaten and dragged to jail for doing something illegal.” They say. There is no leader among them, no one who could help them see things differently. Their fathers are as tired as they are. They talk endlessly in a spiral that moves from poverty to apathy to greed and to injustice. (a) How do the cooperatives help? (i) They address the community needs. (ii) They can reach the poorest people of the community. (iii) They act as anchors to mobilize resoursces. (iv) all of the above (b) The ‘vicious circle’ means (i) a ring (ii) a circular path (iii) a chain of events (iv) a chain of events where response to one problem creates a new one aggravating the original difficulty (c) Who do these young people need desperately who can guide them rightly? (i) guru (ii) leader (iii) master (iv) comrades (d) What message is the author trying to bring out and analyze in the lesson? (i) lives of the advantaged lot (ii) garbage segregation (iii) exploitation of the poor (iv) problems of differently abled Q8. “I want to be a motor mechanic.” he repeats. He will go to a garage and learn. But the garage is a long way from his home. “I will walk,” he insists. “Do you also dream of flying a plane?” He is suddenly silent. “No”, he says, staring at the ground. In his small murmur, there is an embarrassment that

has not yet turned into regret. He is content to dream of cars that he sees hurtling down the streets of his town. Few airplanes fly over Firozabad!
(a) Name the author of the lesson ‘Lost spring’.
(i) Anees Jung
(ii) Vikram Seth
(iii) Tishani Doshi
(iv) William Douglas

(b) What does Mukesh’s repeating of the sentence indicate of his character?
(i) his resolute trait
(ii) his determination
(iii) both (i) and (ii)
(iv) his disappointment

(c) There is an embarrassment that has not yet turned into regret. This shows that Mukesh
(i) still has the ability to dream
(ii) is positive about his aim
(iii) has not given up on life
(iv) all of the above

(d) ‘Few airplanes fly over Firozabad.’ Choose the correct figure of speech for this statement.
(i) simile
(ii) alliteration
(iii) contrast
(iv) repetition

Q9.
“Why do you do this?” I ask Saheb whom I encounter every morning scrounging for gold in the garbage dumps of my neighbourhood. Saheb left his home long ago. Set amidst the green fields of Dhaka, his home is not even a distant memory. There were many storms that swept away their fields and homes, his mother tells him. That’s why they left, looking for gold in the big city where he now lives.
(a) Who is ‘I’ who asks Saheb the question in the first line?
(i) Saheb’s mother
(ii) the author
(iii) Saheb’s neighbour
(iv) none of the above

(b) Saheb left his home long ago. Which country has Saheb

come from?
(i) Bhutan
(ii) Sri Lanka
(iii) Bangladesh
(iv) Myanmar

(c) What is the figure of speech in ‘scrounging for gold’?
(i) hyperbole
(ii) alliteration
(iii) metaphor
(iv) synecdoche

(d) Saheb is a ragpicker. What forces him to become one?
(i) his friends
(ii) his lazy nature
(iii) impoverished conditions
(iv) the mother

Q10.
“There is no school in my neighbourhood. When they build one, I will go.”

“If I start a school, will you come?” I ask, half-joking.
“Yes,” he says, smiling broadly.
A few days later, I see him running up to me. “Is your school ready?”
‘It takes longer to build a school.” I say, embarrassed at having made a promise that was not meant. But promises like mine abound in every corner of his bleak world.
(a) Between whom is the conversation going on in the above extract?
(i) two friends
(ii) the author and her friend
(iii) the author and Mukesh
(iv) Saheb and the author

(b) What was the author embarrassed about?
(i) about having made a false promise
(ii) about raising the boy’s hopes
(iii) about talking to him about a non-existent school
(iv) all of these

(c) For whom is the world bleak?
(i) beggars
(ii) poverty-stricken children
(iii) small shop owners

(iv) road-side vendors

(d) Promises that are not fulfilled are
(i) special
(ii) heartbreaking
(iii) hollow
(iv) both (ii) and (iii)

CH-3(DEEP WATER)

Q1.

But the jump made no difference. The water was still around me. I looked for ropes, ladders, wings. Nothing but water. A mass of yellow water held me. Stark terror took an even deeper hold on me, like a great charge of electricity. I shook and trembled with fright. My arms wouldn't move. My legs wouldn't move. I tried to call for help, to call for mother. Nothing happened.
And then strangely, there was light. I was coming out of the awful yellow water. At least my eyes were. My nose was almost out too.

(a) While in the water, the narrator was frantically looking for
(i) wings
(ii) ropes
(iii) ladders
(iv) all of these

(b) When Douglas tried to call for help, he particularly called for his
(i) father
(ii) mother
(iii) friend
(iv) life guard

(c) This incident at the Y.M.C.A. pool nearly killed Douglas and developed in him
(i) an aversion to water
(ii) an aversion to drinking water
(iii) an aversion to learn swimming
(iv) all of the above

(d) Why was the jump upwards by Douglas not making any difference?
(i) He wasn't jumping hard enough.
(ii) He was thrown into the deep end of the pool.
(iii) He was a small boy of just ten or eleven years.
(iv) both (ii) and (iii)

Q2.

Then all effort ceased, I relaxed. Even my legs felt limp: and a blackness swept over my brain. It wiped out fear; it wiped out terror. There was no more panic. It was quiet and peaceful. Nothing to be afraid of. This is nice… to be drowsy… to go to sleep… no need to jump…too tired to jump… it's nice to be carried gently… to float along in space…tender arms around me… tender arms like Mother's… now I must go to sleep… I crossed to oblivion, and the curtain of life fell.

(a) What were the indicators that made the author feel relaxed?

(i) His legs felt limp.
(ii) Blackness swept over his brain.
(iii) There was no terror.
(iv) all of the above

(b) 'It wiped out fear.' What was the fear about?

(i) death
(ii) being defamed
(iii) losing a dear one
(iv) failure

(c) While Douglas was undergoing a series of emotions under water, whose arms did he imagine himself to be in?

(i) no one's
(ii) father's
(iii) Mother's
(iv) the life guard's

(d) "I crossed to oblivion, and the curtain of life fell." What does the expression 'curtain of life fell' mean"?

(i) the curtains were drawn in the room
(ii) the curtains were changed
(iii) end of one's life
(iv) life is all about drawing curtains

Q3.

The next I remember I was lying on my stomach beside the pool, vomiting. The chap that threw me in was saying, "But I was only fooling." Someone said, "The kid nearly died. Be all right now. Let's carry him to the locker room."

Several hours later, I walked home. I was weak and trembling. I shook and cried when I lay on my bed. I couldn't eat that night. For days a haunting fear was in my heart. The slightest exertion upset me, making me wobbly in the knees and sick to my stomach.

I never went back to the pool. I feared water.

(a) Lying on his stomach, beside the pool, the author was

(i) crying
(ii) vomiting
(iii) sleeping
(iv) resting

(b) How did Douglas manage to reach home, several hours later?

(i) He was taken in an ambulance.
(ii) He was carried back home.
(iii) A car was arranged for him.
(iv) He walked back home himself.

(c) Post the misadventure, what all did he go through?

(i) He felt weak and shaken.
(ii) He couldn't eat properly.
(iii) He would tremble and cry on the bed.
(iv) all the above

(d) What was haunting the author?

(i) ghosts
(ii) horrible experience at the pool
(iii) the aftermath of the experience
(iv) the bully's push

Q4.

I used everyway to overcome this fear, but it held me firmly in its grip. Finally, one October, I decided to get an instructor and learn to swim. I went to a pool and practiced five days a week, an hour each day. The instructor put a belt around me. A rope attached to the belt went through a pulley that ran on a overhead cable. He held on to the end of the rope, and went back and forth, back and forth, across the pool, hour after hour, day after day, week after week.

(a) 'But it held me firmly in its grip'. What does 'it' represent here?

(i) fear
(ii) ghost
(iii) beast
(iv) fever

(b) What did Douglas decide to do to overcome his fear of water?

(i) go to the pool again
(ii) take the help of a good swimmer
(iii) hire an instructor
(iv) measure the depth of the pool first

(c) What was stopping Douglas to get into the water of Cascade before he learnt to hire an instructor?

(i) his experience at California beach
(ii) memories of his terrible experience at the pool
(iii) memories of Washington
(iv) all of the above

(d) How did the instructor help him learn swimming?

(i) by giving him instructions
(ii) by giving him books to read on swimming
(iii) with the help of ropes and belts
(iv) by taking him back to the pool

Q5.

It had happened when I was ten or eleven years old. I had decided to learn to swim. There was the pool at the Y.M.C.A. in Yakima that offered exactly the opportunity. The Yakima river was treacherous. Mother continually warned against it and kept fresh in my mind the details of each drowning in the river. But the Y.M.C.A. pool was safe. It was only two or three feet deep at the shallow end; and while it was nine feet deep at the other, the drop was gradual. I got a pair of water wings and went to the pool.

(a) Name the narrator of the above extract who is also the author of the lesson.

(i) Selma Legerlof
(ii) Stephen spender
(iii) William Douglas
(iv) A.R. Barton

(b) The depth of the pool at the other end was

(i) six feet
(ii) nine feet
(iii) twelve feet
(iv) eight feet

(c) Y.M.C.A stands for

(i) Young Men's Christian Association

(ii) Young Men's Care Association
(iii) Young Men's Christian Authority
(iv) Youth Mentoring Christian Association
(d) Mother always warned the author against the river Yakima. But she recommended the Y.M.C.A. pool. Why?
(i) Because it was shallow.
(ii) Because it was near his house.
(iii) Because it was shallow and safe.
(iv) Because she liked the pool.

Q6.

I went to the pool when no one else was there. The place was quiet. The water was still, and the tiled bottom was as white and clean as a bathtub. I was timid about going in alone, so I sat on the side of the pool to wait for others.
I had not been there for long when in came a big bruiser of a boy, probably eighteen years old. He had thick hair on his chest. He was a beautiful physical specimen, with legs and arms that showed rippling muscles. He yelled, 'Hi, Skinny! How'd you like to be ducked?"
(a) The author said that he was timid about going in alone. Do you think because of some past experience, he suffered from
(i) xenophobia
(ii) acrophobia
(iii) heliophobia
(iv) hydrophobia
(b) Who threw Douglas into the swimming pool?
(i) The instructor
(ii) an eighteen year-old-boy
(iii) the guard
(iv) none of the above
(c) He was a beautiful physical specimen means that
(i) he was a specimen worth keeping in a museum
(ii) he was handsome
(iii) he had a fine healthy beautiful body
(iv) all of the above
(d) "How would you like to be ducked?" What was that bruiser of a boy intending to do?
(i) thinking of helping him in his swimming
(ii) planning to toss him into the pool
(iii) play a joke on him
(iv) just trying to show his authority

Q7.

It seemed a long way down. Those nine feet were more like ninety, and before I touched bottom my lungs were ready to burst. But when my feet hit bottom I summoned all my strength and made what I thought was a great spring upwards. I imagined I would bob to the surface like a cork. Instead, I came up slowly. I opened my eyes and saw nothing but water—water that had a dirty yellow tinge to it. I grew panicky. I reached up as if to grab a rope and my hands clutched only at water. I was suffocating.
(a) Those nine feet seemed to the author more like
(i) ninety feet

(ii) sixty feet
(iii) hundred feet
(iv) ninety-nine feet
(b) How does Douglas try to save himself in the pool?
(i) He shouted but no sound came out.
(ii) He tried to push himself up.
(iii) both (i) and (ii)
(iv) He just gave up.
(c) That water had a dirty ……. tinge to it.
(i) blue
(ii) pink
(iii) sea green
(iv) yellow
(d) Readers would note that Douglas wasn't really scared when tossed into the pool at first. Was it because he…
(i) thought there were people around who would save him
(ii) was overconfident
(iii) knew swimming well
(iv) was confident of his strength

THE THIRD LEVEL

Q1.
The tunnel turned sharp left; I went down a short flight of stairs and came out on the third level at Grand Central Station. For just a moment I thought I was back on the second level, but I saw the room was smaller, there were fewer ticket windows and train gates, and the information booth in the centre was wood and old-looking. And the man in the booth wore a green eyeshade and long black sleeve protectors. The lights were dim and sort of flickering. Then I saw why; they were open-flame gaslights.

(a) What made the narrator think that he was back on the second level?
(i) He had lost his memory.
(ii) The present level reminded him of the second level.
(iii) He met his old friends there.
(iv) The things were strange there.
(b) What was different on this level?
(i) smaller rooms (ii) fewer ticket windows
(iii) fewer train gates (iv) all of the above
(c) How did 'I' reach this level?
(i) Because he wanted to reach there.
(ii) Some external forces were working at him.
(iii) He followed the corridor that angled left and downwards.
(iv) He followed his wife's directions.
(d) What information would the information booth be giving?
(i) about the train timings, their arrival and departure
(ii) about locomotives and its working
(iii) about the availability of newspapers and journals
(iv) about the rest rooms

Q2.

He wore a derby hat, a black four-button suit with tiny lapels, and he had a big, black, handlebar mustache. Then I looked around and saw that everyone in the station was dressed like eighteen-ninetysomething; I never saw so many beards, sideburns and fancy mustaches in my life. A woman walked in through the train gate; she wore a dress with leg-of-mutton sleeves and skirts to the top of her highbuttoned shoes. Back of her, out on the tracks, I caught a glimpse of a locomotive, a very small Currier & Ives locomotive with a funnel-shaped stack. And then I knew.

(a) What does eighteen-nineteen something mean here?

(i) the days of a month

(ii) just two random numbers

(iii) centuries

(iv) numbers representing teenage

(b) What had 'I' not seen in abundance in his life before?

(i) Beards

(ii) Moustaches

(iii) sideburns

(iv) all of the above

(c) What does leg-of-mutton sleeves' stand for?

(i) Sleeves that look like mutton legs

(ii) Sleeves that are tight on the upper arm

(iii) Sleeves loose and full on the upper arm, and close-fitting on the fore-arm

(iv) Sleeves that are loosely hanging on the arm

(d) What genre does the story explore?

(i) romantic

(ii) comedy

(iii) science fiction

(iv) mystery

Q3.
And then I knew.

To make sure, I walked over to a newsboy and glanced at the stack of papers at his feet. It was The World; and The World hasn't been published for years. The lead story said something about President Cleveland. I've found that front page since, in the Public Library files, and it was printed June 11, 1894.
I turned toward the ticket windows knowing that here — on the third level at Grand Central — I could buy tickets that would take Louisa and me anywhere in the United States we wanted to go.

(a) What struck the narrator that he wanted to make sure?
(i) That he was a changed man.
(ii) That he had travelled back in time.
(iii) That his family was now safe.
(iv) That he could take decisions by himself.
(b) 'The World' was a
(i) journal
(ii) magazine
(iii) novel
(iv) newspaper
(c) Do you think the narrator had been successfully able to find the _____ level?
(i) first
(ii) third
(iii) lower
(iv) second
(d) How did the narrator confirm that he had travelled back to the year 1894?
(i) Everything was of old style.
(ii) 'The World' newspaper was dated June 11, 1894.
(iii) The locomotive belonged to an old company.
(iv) all of the above

Q4.
The clerk figured the fare — he glanced at my fancy hatband, but he figured the fare — and I had enough for two coach tickets, one way. But when I counted out the money and looked up, the clerk was staring at me. He nodded at the bills. ''That ain't money, mister,'' he said, ''and if you're trying to skin me, you won't get very far,'' and he glanced at the cash drawer beside him. Of course the money was old-style bills, half again as big as the money we use nowadays, and different-looking. I turned away and got out fast. There's nothing nice about jail, even in 1894.

(a) Who were the 'two' coach tickets for?
(i) Charley and his friend
(ii) Charley and Louisa
(iii) Charley and the clerk
(iv) Charley and Sam
(b) Which place did the narrator want to visit with those two tickets?
(i) St. Jose
(ii) Florida
(iii) Manhattan
(iv) Galesburg
(c) What was wrong with the bills?
(i) They were fake.
(ii) They were different from the money used in those days.
(iii) Charley paid less money
(iv) The bills had no stamp.
(d) What does the phrase 'trying to skin ' mean?
(i) trying to hide
(ii) trying to explain

(iii) trying to peel off
(iv) trying to cheat

Q5.

That night, among my oldest first-day covers, I found one that shouldn't have been there. But there it was. It was there because someone had mailed it to my grandfather at his home in Galesburg; that's what the address on the envelope said. And it had been there since July 18, 1894 — the postmark showed that — yet I didn't remember it at all. The stamp was a six-cent, dull brown, with a picture of President Garfield. Naturally, when the envelope came to Granddad in the mail, it went right into his collection and stayed there — till I took it out and opened it.

(a) What are first-day covers?
(i) Letters
(ii) Bookmarks
(iii) The envelops that are mailed to oneself by the stamp collectors who buy them on the very first day when a new stamp is issued.
(iv) Greeting Cards
(b) Galesburg is located in _____ .
(i) Illinois
(ii) California
(iii) New York
(iv) Maryland
(c) What, according to the narrator, shouldn't have been there?
(i) The stamp
(ii) A letter
(iii) First-day cover
(iv) An artifact
(d) The envelope had a stamp with a picture of the President _____ .
(i) Roosevelt
(ii) Garfield
(iii) Kennedy
(iv) Andrew Jackson

Q6.

I got to wishing that you were right. Then I got to believing you were right. And, Charley, it's true; I found the third level! I've been here two weeks, and right now, down the street at the Daly's, someone is playing a piano, and they're all out on the front porch singing 'Seeing Nelly Home.' And I'm invited over for lemonade. Come on back, Charley and Louisa. Keep looking till you find the third level! It's worth it, believe me!

(a) Who said the above words?
(i) Charley
(ii) Luisa
(iii) the psychiatrist friend
(iv) someone playing the piano.
(b) What was the name of Charley's psychiatrist friend?
(i) Jonathan miller
(ii) Roger

(iii) Jack Weiner
(iv) Sam Weiner
(c) Why did Charley's friend want to start the hay, feed and grain business at the place where he had gone?
(i) He didn't like his business.
(ii) He was looking to earn extra money.
(iii) He wanted an escape from the fears and frustrations of modern life.
(iv) He had an unhappy married life.
(d) Did the "third level' really exist?
(i) It was just a medium of escape from the harsh realities of modern life and a mind game.
(ii) No, there was no 'Third Level'.
(iii) It's a story about time travel.
(iv) All of the above

Q7.
But I say there are three, because I've been on the third level of the Grand Central Station. Yes, I've taken the obvious step: I talked to a psychiatrist friend of mine, among others. I told him about the third level at Grand Central Station, and he said it was a waking-dream wish fulfillment. He said I was unhappy. That made my wife kind of mad, but he explained that he meant the modern world is full of insecurity, fear, war, worry and all the rest of it, and that I just want to escape.
(a) Who does 'I' refer to?
(i) Louisa
(ii) the narrator
(iii) psychiatrist
(iv) clerk
(b) What are the 'Three' that 'I' has seen?
(i) books
(ii) shops
(iii) levels
(iv) Steps
(c) The Grand Central Station in the passage refers to _____ .
(i) Houston
(ii) New York
(iii) Los Angeles
(iv) Chicago
(d) What was the obvious step according to 'I'?
(i) Going back home.
(ii) Counting the total number of levels.
(iii) Waiting at the station for a friend.
(iv) Consulting his psychiatrist friend.

Q8.
But that's the reason, he said, and my friends all agreed. Everything points to it, they claimed. My stamp collecting, for example; that's a 'temporary refuge from reality.' Well, maybe, but my grandfather didn't need any refuge from reality; things were pretty nice and peaceful in his day, from all I hear, and he started my collection. It's a nice collection too, blocks of four of practically every U.S. issue, first-day

covers, and so on. President Roosevelt collected stamps too, you know.

(a) Which place is referred to as the Third Level in the story of the similar name?

(i) The Grand Central Station of London

(ii) The Grand Airport of London

(iii) The Grand Central Airport of New York

(iv) The Grand Central Station of New York

(b) Stamp collecting hobby is known by another name. What is it?

(i) Philately

(ii) Calligraphy

(iii) Landscaping

(iv) Sculpting

(c) What do the first-day covers refer to?

(i) cover of the book

(ii) a gift pack

(iii) an envelope with a stamp on the first day of its release

(iv) a hard-bound book

(d) What does the phrase 'temporary refuge from reality ' mean in the story?

(i) A temporary escape from reality

(ii) A shelter home

(iii) An escape for a long period

(iv) A forever escape from reality

Q9.

Now, I don't know why this should have happened to me. I'm just an ordinary guy named Charley, thirty-one years old, and I was wearing a tan gabardine suit and a straw hat with a fancy band; I passed a dozen men who looked just like me. And I wasn't trying to escape from anything; I just wanted to get home to Louisa, my wife.

I turned into Grand Central from Vanderbilt Avenue, and went down the steps to the first level, where you take trains like the Twentieth Century. Then I walked down another flight to the second level, where the suburban trains leave from, ducked into an arched doorway heading for the subway — and got lost.

(a) What had happened to 'I'?

(i) He was becoming forgetful.

(ii) He wasn't feeling too well.

(iii) He had forgotten his way.

(iv) He had lost his office files.

(b) Charley's age as mentioned in the extract is

_____ .
(i) early thirties
(ii) mid-thirty
(iii) late thirties
(iv) late twenties
(c) Where was Charley headed towards?
(i) Mall
(ii) Theatre
(iii) Home
(iv) Church
(d) Charley passed by a _____ men who looked just like him.
(i) few
(ii) many
(iii) half-a-dozen
(iv) dozen

Q10.
All I could hear was the empty sound of my own footsteps and I didn't pass a soul. Then I heard that sort of hollow roar ahead that means open space and people talking. The tunnel turned sharp left; I went down a short flight of stairs and came out on the third level at Grand Central Station. For just a moment I thought I was back on the second level, but I saw the room was smaller, there were fewer ticket windows and train gates, and the information booth in the centre was wood and old looking. And the man in the booth wore a green eyeshade and long black sleeve protectors.

(a) What could the narrator hear?
(i) the roaring sound
(ii) sound of a crying child
(iii) bells ringing
(iv) sound of his own footsteps
(b) I didn't pass a soul means-
(i) I didn't meet anyone on the way
(ii) he encountered a soul
(iii) he saw a crowd of men
(iv) he met a lone person
(c) Which tunnel is being talked about here?
(i) the tunnel on the main road
(ii) the tunnel at the first level
(iii) the tunnel at the third level
(iv) the underground tunnel
(d) Why was the narrator self-prompted to reach the third level?
(i) He had seen the third level in his dream.
(ii) He had heard a lot about this level in his childhood
(iii) He wanted to explore a new level.
(iv) He wanted an escape from his existing life.

KEEPING QUIET

Q1.
Now we will count to twelve

and we will all keep still.
For once on the face of the Earth
let's not speak in any language,
let's stop for one second,
and not move our arms so much.

(a) Neftali Recardo Reyes Basoalto is the poet of the poem "Keeping Quiet". He wrote under the pen name

(i) Robert Frost
(ii) Pablo Neruda
(iii) John Keats
(iv) Stephen Spender

(b) What is the significance of the number 'twelve' in the poem?

(i) emphasizing the importance of time
(ii) a reminder of the clock
(iii) giving time frame in seconds to make us realize the importance of being silent
(iv) no significance, just a number

(c) Why is the poet asking people not to speak?

(i) It gives the people time to introspect their actions.
(ii) The poet doesn't like talkative people.
(iii) It creates noise.
(iv) There are less chances of infection.

(d) "Not move our arms" refers to

(i) keep your arms folded
(ii) remain inactive
(iii) stand silently
(iv) sitting still and not using any weapons too

Q2.

It would be an exotic moment

without rush, without engines,
we would all be together
in a sudden strangeness.

(a) What does 'it' signify in the first line?

(i) the surroundings
(ii) total stillness
(iii) being in the nature's lap
(iv) all of the above

(b) The exotic moment according to the poet is

(i) exciting activity
(ii) total inactivity
(iii) beautiful moment of thoughtful silence
(iv) when language barriers are removed

(c) If there is no rush, no sound of engines—what does the poet expect will happen?

(i) less noise
(ii) less crowd on roads
(iii) more happy and silent moments
(iv) all the above

(d) How will everyone feel at the exotic moment?

(i) a blissful oneness
(ii) sorrowful

(iii) repentant
(iv) happy

Q3.

Fishermen in the cold sea
would not harm whales
and the man gathering salt
would look at his hurt hands.

(a) Which activity does the poet not want the fisherman to do?
(i) not go out into the sea
(ii) not harm the whales
(iii) not going sailing during storms
(iv) kill the other sea-creatures

(b) What are some of the other men doing?
(i) selling salt
(ii) de-silting
(iii) drinking salty water
(iv) gathering salt

(c) Men would look at their hurt hands. What do the 'hurt hands' refer to?
(i) the harm that the salt is doing to his hands
(ii) wounded hands
(iii) both (i) and (ii)
(iv) hands that hurt others

(d) The poet advocates the balance of nature
(i) To be maintained
(ii) To get destroyed
(iii) To remain inactive
(iv) all of the above

Q4.

Those who prepare green wars

wars with gas, wars with fire
victory with no survivors,
would put on clean clothes
and walk about with their
brothers
In the shade doing nothing.

(a) 'Green wars' stand for
(i) green colour
(ii) wars against environment
(iii) wars displaying green flags
(iv) wars fought in the woods

(b) The poet is deliberating upon which type of wars
(i) nuclear warfare
(ii) surgical strikes
(iii) hand to hand combat
(iv) green wars, wars with gas, wars with fire

(c) Pick the correct rhyme scheme used in the poem.
(i) free verse
(ii) blank verse

(iii) haiku form
(iv) enclosed rhyme
(d) They would be walking around with their brothers. Where would they be walking?
(i) along side a river
(ii) in a park
(iii) in the shade
(iv) in the market area

Q5.
What I want should not be

confused
with total inactivity.
Life is what it is all about;
I want no truck with death.
If we were not so single-minded
about keeping our lives moving,
and for once could do nothing,
Perhaps a huge silence
might interrupt this sadness
of never understanding ourselves with
death.
(a) What should not be confused with total inactivity? By this, does the poet mean that
(i) one should just be like a statue.
(ii) stillness and silence should be observed once in a while.
(iii) one can be lazy at times.
(iv) people should stop talking to each other.
(b) What are we so single-minded about
(i) making more and more money
(ii) spoiling the environment
(iii) earning our livelihood
(iv) creating wars and losing lives and property
(c) The expression 'have no truck with death' means
(i) truck carrying arms
(ii) trucks can cause accidents and deaths
(iii) everyone has to die one day
(iv) have no association with death
(d) There is one thing that the poet wants us to focus on throughout the poem and that is
(i) suspend all activities for some time
(ii) keep still
(iii) both (i) and (ii)
(iv) keep running and talking

Q6.
Perhaps the Earth can teach us

as when everything seems dead
and later proves to be alive.
Now I'll count up to twelve
and you keep quiet and I will go.

	(a) The whole humanity needs to learn a lesson from the nature's symbol (i) sun (ii) earth (iii) moon (iv) stars **(b) The poet is pleading to the human beings to keep quiet for just** (i) twelve seconds (ii) forty seconds (iii) twenty seconds (iv) ten seconds **(c) What does the earth teach us?** (i) to be active (ii) remain still but not inactive (iii) Be in harmony with nature (iv) All the above **(d) The message given through the title ' Keeping Quiet' by Pablo Neruda is** (i) people will get much needed time for rest (ii) there will be no rush and hurry (iii) people will have time to introspect (iv) all of these
Mathematics	1.Practice ch-1(Relation and Functions), ch-2(Inverse Trigonometric functions), Ch-3(Algebra of Matrices), ch-4(Determinants), ch-5(Matrix Continued), ch-6 Continuity and Differentiability), ch-7(Differentiation) 2.Write 5 activities in Maths lab manual book. (Bharat Pub.) (i) To verify that a relation are in a set l of all lines in a plane is an equivalence relation, R={(l,m) : l || m}. (ii) To establish a relation between common logarithm (to the base 10) and natural logarithm (to the base e) of the number X. (iii)To find limit of function F(x) analytically at x = C and also to check the Continuity of function at that point. (iv) To understand the concepts of local maxima local minima and point of inflection. (v) To understand the concepts of increasing and decreasing function. **Charts** **1.Relation and function(Types and what is relation etc.) (Roll no 19,20)** **2. Matrices (Roll no 21,22)**

3. Triangles(Types and area formulas) (Roll no. 23,24)

4. Parts of circle(sector, segment, diameter etc) (Roll no. 25,26,27)

5. Coordinate Geometry (2D and 3D) (Roll no. 28,29)

6. Differentiation (Some basic formulas) (Roll no. 30,31)

7. Probability(Events,formulas)(Roll no. 32,33,34)

Maths Assignment

1. If $\begin{vmatrix} 2x+5 & 3 \\ 5x+2 & 9 \end{vmatrix} = 0$, then x is

(a) 13 (b) 9 (c) -9 (d) -13

2. If $\begin{bmatrix} a & 2 \\ 2 & a \end{bmatrix}$ and $|A|^3 = 125$, then a is

(a) ± 3 (b) 5 (c) ± 2 (d) 4

3. A is invertible matrix of order 3 x 3 and $|A| = 9$ then value of $|A|^{-1}$ is

(a) 9 (b) -9 (c) $\frac{1}{9}$ (d) $-\frac{1}{9}$

4. Given a square matrix A of order 3 x 3, such that $|A| = 12$, then the value of $|A.adjA|$ is

(a) 12 (b) 144 (c) 1728 d) 72

5. If A is a skew symmetric matrix of order 3 x 3, then value of $|A|$ is

3 (b) 0 (c) 9 (d) 27

6. The point (s), at which the function f given by $f(x) = \begin{cases} \frac{x}{|x|}, x < 0 \\ -1, x \geq 0 \end{cases}$ is continuous, is\ are

(a) $x \in R$ (b) x = 0 (c) $x \in R - \{0\}$ (d) x = -1 and 1

7. The function f(x) = [x], where [x] denotes the greatest integer function, is continuous at

(a) 4 (b) -2 (c) 1 (d) 1.5

8. The value of k for which function $f(x) = \begin{cases} x^2, x \geq 0 \\ kx, x < 0 \end{cases}$ is differentiable at x = 0 is

(a) 1 (b) 2 (c) any real number (d) 0

9. If for a square matrix A, $A^2 - A + I = O$, then A^{-1} equals

(a) A (b) A + I (c) I – A (d) A – I

10. If $A = \begin{bmatrix} 1 & 0 \\ 2 & 1 \end{bmatrix}$, $B = \begin{bmatrix} x & 0 \\ 1 & 1 \end{bmatrix}$ and $A = B^2$, then x equals

(a) ±1 (b) -1 (c) 1 (d) 2

11. If $A = \begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 1 \\ 0 & 0 \end{bmatrix}$, then B'A' is equal to

(a) $\begin{bmatrix} 1 & 1 \\ 0 & 0 \end{bmatrix}$ (b) $\begin{bmatrix} 1 & 0 \\ 1 & 0 \end{bmatrix}$ (c) $\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$

12. A and B are skew-symmetric matrices of same order. AB is

symmetric, if

(a) AB = O (b) AB = - BA (c) AB = BA (d) BA = O

13. The A = $\begin{bmatrix}2 & -3 & 4\end{bmatrix}$, B = $\begin{bmatrix}3\\2\\2\end{bmatrix}$, x = $\begin{bmatrix}1 & 2 & 3\end{bmatrix}$, y = $\begin{bmatrix}2\\3\\4\end{bmatrix}$, then AB + XY equals

(b) [28] (b) [24] (c) 28 (d) 24

14. **Assertion(A):** If matrix A = $\begin{bmatrix}1 & 2\\4 & -1\end{bmatrix}$, then it is a singular matrix.

Reason(R): If matrix A is singular, then | A | = 0.

15. **Assertion(A):**Adjoint of matrix A = $\begin{bmatrix}2 & -1\\3 & 2\end{bmatrix}$ is $\begin{bmatrix}2 & 1\\-3 & 2\end{bmatrix}$

Reason(R): Adjoint of matrix is the transpose of a matrix formed by cofactors of each element of a determinant correspond to a given matrix

16. **ASSERTION:** f(x) = | sinx | is everywhere continuous.

REASON: If f(x) is continuous, then | f(x) | is continuous.

17. **ASSERTION:**The function f(x) = x - [x] is discontinuous at integer points.

REASON: The set of points of discontinuity of the greatest integer function [x], is Z.

18. **ASSERTION:** The function f(x) = $\frac{x^2+5x+6}{x^2-4x+4}$is continuous on R.

REASON: A polynomial function is everywhere continuous.

19. Three schools DPS, CVC and KVS decided to organize a fair for collecting money for helping the flood victims. They sold handmade fans, mats and plates

from recycled material at a cost of Rs. 25, Rs.100 and Rs. 50 each respectively. The numbers of articles sold are given as

School/Article	DPS	CVC	

Handmade fans	40	25	3
Mats	50	40	5
Plates	20	30	4

What is the total money (in Rupees) collected by the school DPS, CVC and KVS?

If the number of handmade fans and plates are interchanged for all the schools, then what is the total money collected by all schools?

20. Two farmers Ramakishan and Gurucharan Singh cultivate only three varieties of rice namely Basmati, Permal and Naura. The sale (in rupees) of these varieties of rice by both the farmers in the month of September and October are given by the following matrices A and B.

September sales (in Rupess)

$$A = \begin{bmatrix} 10{,}000 & 20{,}000 & 30{,}000 \\ 50{,}000 & 30{,}000 & 10{,}000 \end{bmatrix} \begin{matrix} Ramkishan \\ Gurucharan \end{matrix}$$

October sales (in Rupess)

$$B = \begin{bmatrix} 5{,}000 & 10{,}000 & 6{,}000 \\ 20{,}000 & 10{,}000 & 10{,}000 \end{bmatrix} \begin{matrix} Ramkishan \\ Gurucharan \end{matrix}$$

Represent the total sales in September and October for each variety in terms of A and B.

What is the value of A_{23}?

The decrease in sales from September to October in A and B relation.

OR

If Ramkishan receives 2% profit on gross sales, compute his profit for each variety sold in October.

Physics	. 1) Practice num. of Electric Charges and Fields,electrostatic potential and capacitance , Current electricity **2) Investigatory project:** 1. To study various factors on which the internal resistance/EMF of a cell depends. (Roll.No. 1-4) 2.. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.(Roll. No. 5-8) 3.. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle. (Roll. No. 9-12) 4. To study the variations in current flowing in a circuit containing an LDR because of a variation in (a) the power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance). (b) the distance of a incandescent lamp (of fixed power) used to 'illuminate' the LDR. (R. No 13-16) 5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids. (R. No. 17-20) 6. To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law. (R. No. 21- 24) 7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency. (R. No. 25-28) 8. To study the earth's magnetic field using a compass needle -bar magnet by plotting magnetic field lines and tangent galvanometer. (R. No 29-32) **Working Model** 1. Tesla coil 2. Electromagnetic breaks. 3. ElectroMagnetic swing 4.microscope 5. Mini inverter (1.5V -20v) 6.Jumping coil 7.Telescope 8. Solar car 9. Mutual induction 10. Induction bulb **Model details:** **1.Tesla coil** • **Understanding Electricity and Magnetism** • Learn about the fundamental principles of electricity and magnetism, including electromagnetism. • Explore how Tesla coils utilize electromagnetic induction to produce high-voltage, low-current electricity. • **Hands-on Construction Skills** • Develop practical skills in assembling and constructing electrical components.

- Learn about basic circuitry, including how to wind coils and make electrical connections.

- **Safety Awareness**

- Understand the importance of safety precautions when working with electricity.
- Learn how to identify potential electrical hazards and mitigate risks.

- **Communication and Presentation Skills**

- Prepare a report or presentation detailing the construction process, experimental findings, and conclusions.
- Practice effective communication of scientific concepts to peers and teachers.

- Link: https://youtu.be/owbkvDW7wAQ?si=9EM7AA-N7uEMHnYM

2.Electromagnetic breaks

- **Understanding Electromagnetism**

- Gain knowledge about the principles of electromagnetism, including how electric currents produce magnetic fields and how magnetic fields exert forces on conductive materials.

- **Design and Construction Skills**

- Develop skills in designing and building electromagnetic brake systems using readily available materials.
- Learn about the components required for constructing electromagnetic brakes, such as coils, cores, and conductive plates.
- **Hands-on Experimentation**
- Design and conduct experiments to test the effectiveness of different electromagnetic brake designs.
- Explore factors that affect the braking force, such as coil current, magnetic field strength, and material composition of the brake components.

- **Safety Awareness**

- Understand the importance of safety precautions when working with electricity and electromagnetism.
- Learn how to handle electrical components safely and minimize

risks of electric shock or overheating.

- **Documentation and Presentation**
- Document the design process, experimental setup, and results in a clear and organized manner.
- Prepare a presentation to communicate the project objectives, methods, and findings to classmates and teachers.
- Link:https://youtube.com/shorts/7MagkoTMlOA?si=CMVhd85QOmfHi0eY

3. Electromagnetic swing

- **Understanding Electromagnetism**

- Gain a fundamental understanding of electromagnetism, including how electric currents generate magnetic fields and how magnetic fields interact with conductive materials.

- **Design and Engineering Skills**

- Develop skills in designing and engineering electromagnetic systems for practical applications.
- Learn about the components required for constructing an electromagnetic swing, such as coils, magnets, and conductive materials.
- **Hands-on Construction**
- Apply engineering principles to construct an electromagnetic swing using available materials.
- Experiment with different designs and configurations to optimize the performance of the swing

- **Safety Awareness**

- Understand the importance of safety precautions when working with electricity and electromagnetism.
- Learn how to handle electrical components safely and minimize risks of electric shock or overheating.

- **Documentation and Presentation**

- Document the design process, construction techniques, and experimental findings in a detailed report.
- Prepare a presentation to effectively communicate the project objectives, methodologies, and outcomes to peers

and teachers.

- Link: https://youtu.be/TE1nROqoa0o?si=rGKDJd0BXpeqcm9X

4. **Microscope**

- **Learning Optics Concepts**: Explore fundamental concepts of optics, such as the behavior of light rays passing through convex lenses, focal length, and image formation.
- **Practicing Construction Skills**: Develop practical skills by assembling microscope components, including lenses, base, and stand, and ensuring their proper alignment and stability.
- **Experimenting with Magnification**: Experiment with different combinations of lenses and distances to achieve various levels of magnification and observe their effects on the clarity and size of the image.
- **Exploring Specimen Preparation**: Learn techniques for preparing specimens suitable for microscopic observation, such as mounting thin sections of biological or non-biological materials on slides.

Link: https://youtu.be/1-Jr46nrm6k?si=hgqZPO6s5DULYJA8

5. **Laser security Alarm System:**

- **Exploring Security Systems**

- Explore the importance of security systems in protecting homes, businesses, and sensitive areas.
- Understand the different types of security systems, including motion sensors, alarms, and surveillance cameras.

- **Design and Engineering Skills**

- Develop skills in designing and engineering a functional laser security system model using simple materials.
- Learn about the components required for constructing a laser security system, such as laser diodes, photodiodes,

mirrors, and alarm circuits.

- **Hands-on Construction**

- Apply engineering principles to construct a laser security system model using readily available materials, such as laser pointers, photodiodes, and cardboard.
- Experiment with different configurations and sensor placements to optimize the sensitivity and reliability of the security system.
- **Understanding Sensor Technology**
- Learn about photodiodes and their role in detecting laser light.
- Understand how changes in the intensity of laser light detected by the photodiode can trigger an alarm or activate a security mechanism.

- **Safety Awareness**

- Understand the importance of safety precautions when working with lasers and electronic components.
- Learn how to handle laser diodes and photodiodes safely to avoid eye injury and damage to the components.

- **Documentation and Presentation**

Document the design process, construction techniques, and experimental findings in a detailed project report.

Prepare a presentation to effectively communicate the project objectives, methodologies, results, and conclusions to classmates and teachers

Link: https://youtu.be/alQ9v8dyaTs?si=Os6AG_zUrmTtDaDl

6. **Jumping coil**

- **Understanding Electromagnetic Phenomena**

- Gain knowledge about electromagnetic induction and its role in creating motion.
- Learn about the principles of electromagnetic repulsion and attraction.

- **Exploring Energy Conversion**

- Explore how electrical energy can be converted into mechanical energy using electromagnetic forces.
- Understand the relationship between electrical current, magnetic fields, and mechanical motion.

- **Design and Engineering Skills**

- Develop skills in designing and engineering a jumping coil mechanism using simple materials.
- Learn about the components required for constructing a jumping coil, such as coils, magnets, and a power source.

- **Hands-on Construction**

Apply engineering principles to construct a jumping coil using readily available materials, such as copper wire, magnets, and a battery.

Experiment with different coil configurations and magnetic field strengths to optimize the jumping motion

Link: https://youtu.be/ztS21EVM4Pk?si=dQn4IcG--ykppPmD

7. **Telescope**
   - **Understanding Optics**: Learn about the principles of optics, including reflection, refraction, and focal length, by constructing and using a simple telescope.
   - **Hands-On Construction**: Develop practical skills by assembling telescope components, such as lenses, tubes, and mounts, and understanding how they work together to form images.
   - **Improving Problem-Solving Skills**: Enhance problem-solving skills by troubleshooting issues related to telescope alignment, focusing, and stability, and devising solutions to optimize performance.
   - **Learning about Scale and Measurement**: Understand concepts related to scale, distance, and measurement by estimating the size, distance, and brightness of celestial objects observed through the telescope.

Link:https://youtu.be/O42_jRaX1fI?si=av5oSXcPfR8sdStd

8. **Solar car**

- **Understanding Solar Energy**

- Gain knowledge about solar energy and its potential as a renewable energy source.
- Learn about photovoltaic cells and how they convert sunlight into electrical energy.

- **Exploring Sustainable Transportation**

- Explore the importance of sustainable transportation solutions in reducing carbon emissions and mitigating climate change.
- Understand the benefits and challenges of using solar energy to power vehicles.

- **Hands-on Construction**

- Apply engineering principles to construct a solar car using readily available materials, such as cardboard, solar cells, wheels, and axles.
- Experiment with different designs and configurations to optimize the performance and efficiency of the solar car.

- **Experimentation and Optimization**

- Design experiments to test the performance of the solar car under different conditions, such as varying sunlight intensity and terrain.
- Collect data and analyze results to optimize the design and performance of the solar car.

- **Documentation and Presentation**

- Document the design process, construction techniques, and experimental findings in a detailed project report.
- Prepare a presentation to effectively communicate the project objectives, methodologies, results, and conclusions to classmates and teachers.

Link:
https://youtu.be/jigQ35gQTco?si=Ngez2D0PVzl6Y1xS

9. **Mutual induction**

- **Understanding Electromagnetic Induction**

- Gain knowledge about the concept of electromagnetic induction and how it relates to the generation of electric currents.
- Learn about the Faraday's law of electromagnetic induction and Lenz's law.

- **Exploring Mutual Induction**

- Explore the phenomenon of mutual induction, which occurs when a changing magnetic field in one coil induces a voltage in a nearby coil.
- Understand the principles behind mutual induction and its applications in transformers and wireless power transfer.

- **Hands-on Experimentation**

- Design and conduct experiments to observe mutual induction in action.
- Explore how changing the current in one coil affects the voltage induced in the other coil.

- **Practical Applications**

- Explore practical applications of mutual induction in everyday life, such as in transformers used in power distribution and wireless charging technology.
- Understand the advantages and limitations of mutual induction in various applications.

- **Safety Awareness**

- Understand the importance of safety precautions when working with electrical circuits and components.
- Learn how to handle wires, coils, and power sources safely to avoid electric shock or injury.

- **Documentation and Presentation**

- Document the design process, construction techniques, and experimental findings in a detailed project report.
- Prepare a presentation to effectively communicate the project objectives, methodologies, results, and conclusions to classmates and teachers.

Link: https://youtu.be/O1Fqi56GicM?si=e9mDTkBLF4vMiQbI

10. Induction bulb

- **Understanding Induction Lighting**

- Gain knowledge about the principles of induction lighting, including electromagnetic induction and the operation of induction lamps.
- Learn about the components used in induction bulbs, such as the induction coil, gas discharge bulb, and electronic ballast.

- **Exploring Energy Efficiency**

- Explore the advantages of induction lighting over traditional incandescent and fluorescent lighting technologies, including higher efficiency, longer lifespan, and lower maintenance requirements.
- Understand the role of induction bulbs in promoting energy conservation and reducing carbon emissions.

- **Hands-on Construction**

- Apply engineering principles to construct an induction bulb prototype using readily available materials, such as copper wire, a gas discharge bulb, and a power source.
- Experiment with different coil configurations and electronic components to optimize the performance of the induction bulb.

- **Electrical Safety**

- Understand the importance of electrical safety when working with high-frequency circuits and gas discharge bulbs.
- Learn how to handle electronic components safely to avoid electric shock and damage to the components.

- **Sustainability**

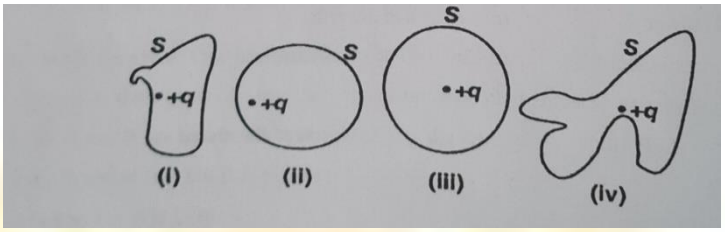
- Explore the environmental impact of lighting technologies and the role of induction bulbs in promoting sustainability.
- Understand how induction lighting contributes to energy conservation and reduces the carbon footprint of lighting systems.
- **Documentation and Presentation**
- Document the design process, construction techniques, and experimental findings in a detailed project report.

Prepare a presentation to effectively communicate the project objectives, methodologies, results, and conclusions to classmates and teachers.

Link: https://youtu.be/j5Yg66ejuPw?si=vi-VZBoeueZE80C-

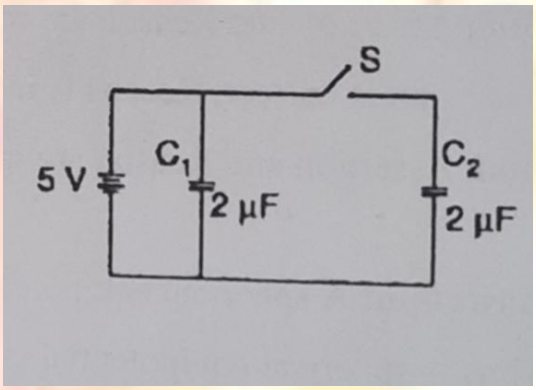
1. Two point charges q1 and q2 are situated at a distance d. There is no such point in between them where the electric field is zero. What can we deduce?
A) There is no such point
b) The charges are of the same polarity
c) The charges are of opposite polarity
d) The charges must be unequal
2.In an experiment three microscopic latex spheres are sprayed into a chamber and became charged with charges +3e, +5e and -3e respectively. All the spheres came in contact simultaneously for a moment and got separated. Which one of the following possible values for the final charge on spheres?
(a) +5e, -4e, +5e
(b) +6e, +6e, -7e
© -4e, +3.5e, +5.5e
(d) +5e, -8e, +7e
3. A proton is placed in a uniform electric field directed along the positive x-axis. In which direction will it tend to move?
4. Two statements are given. One labelled Assertion (A) and the other labelled reasoning. Select the correct answers to their questions from the codes (a), (b), (c) and (d) are given below.
(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R 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 also false.
. Assertion: A point charge is brought in an electric field, then electric field at a nearby point
May increase or decrease.
Reason: The electric field is dependent on the nature of charge
5. Assertion: A way from a charge filed lines gets weaker and density of field lines is less resulting in well separated lines.
Reason: Only a finite number of lines can be drawn from a charge.
6. If E. ds =0 over a surface, then
(a) the electric field inside the surface and on it is zero
(b) the electric field inside the surface is necessarily uniform
© the number of flux lines entering the surface must be equal to the number of

flux lines leaving it
(d) all charges must necessarily be outside the surface
7. The electric flux through the surface



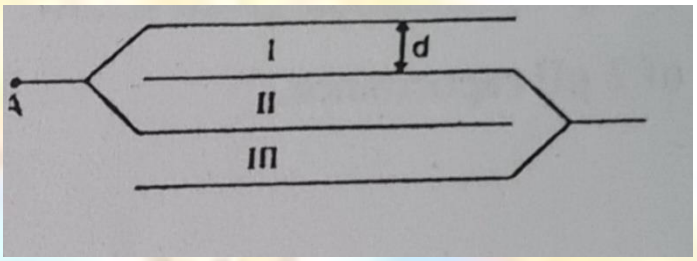
(a) In fig (iv) is the largest

(b) fig (iii) is the least
© fig (ii) is same as fig (iii) but is smaller than fig (iv)
(d) is the same for all the figures
8. Assertion- Electric flux is a vector quantity.
Reason- Electric flux is expressed as vector product of electric field vector and area
Vector.
9. Assertion- Gaussian surface can be drawn outside the body or within the body.
Reason- It is purely imaginary surface.
10. Assertion- Electric field at a point inside spherical shell with a charge uniformly spread on its outer surface is zero.
Reason- There is no charge enclosed within the closed shell.
11. A force F is acting between two point charges qi and q2. If a third charge q3 is placed quiteClose to q2, what happens to the force between qi and q2?
12. Figure shows two identical capacitance C1 and C2 each of 2 uF capacitance, connected to a battery of 5V.initially switche "S" is left open and dielectric slabs of dielectric constant K=5 are inserted to fill space between two capacitors.



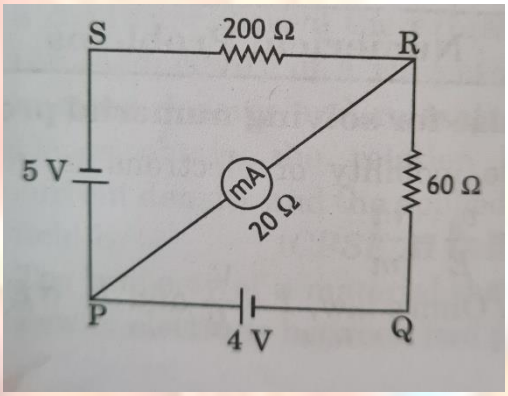
13. Assertion: If the distance between parallel plates of a capacitor is halved and dielectric constant is three times, then the capacitance becomes 6 times.
Reason: Capacity of the capacitor does not depend upon the nature of the material.
14. Assertion: A parallel plate capacitor is connected across battery through a key. A dielectric slab of dielectric constant K is introduced between the plates. The energy which is stored becomes
K times.
Reason: The surface density of charge on the plate remains constant or unchanged
15. Two capacitors have a capacitance of 5uF when connected in parallel and 1.2uF when connected in series. Calculate their capacitances.

16. Why does current in a steady state not flow in a capacitor connected across a battery? However momentary current does flow during charging or discharging of the capacitor. Explain. Q17. A capacitor is connected across a battery.
17. A capacitor has some dielectric between its plates and the capacitor is connected to a DC source. The battery is now disconnected and then the dielectric is removed. State whether the capacitance, electric field, charge stored and the voltage will increase, decrease or remain
Constant.



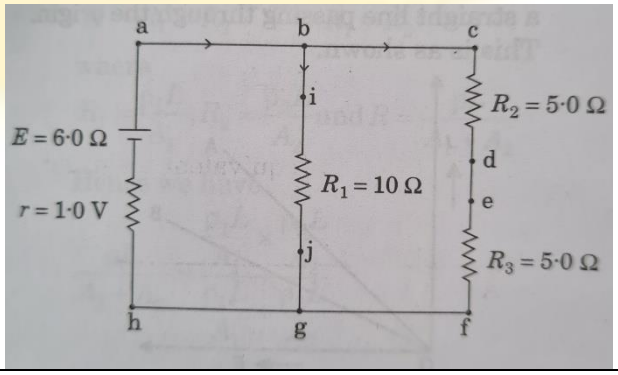
18. If voltage applied on a capacitor is increased from V to 2V, choose the correct conclusion.
(a) Q remains the same, C is doubled
(b) Q is doubled, C doubled
© C remains same, Q doubled
(d) Both Q and C remain same

19. The network PQRS, shown in the circuit diagram, has the batteries of 4 V 5 V and negligible internal resistance A milliammeter of 20 ohm resistance connected between P and R. Calculate the reading in the milliammeter.

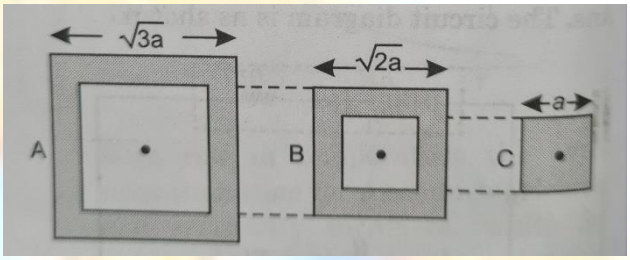


20. The following figure shows a circuit diagram. We can find the currents through and potential differences across different resistors using Kirchhoff's rules

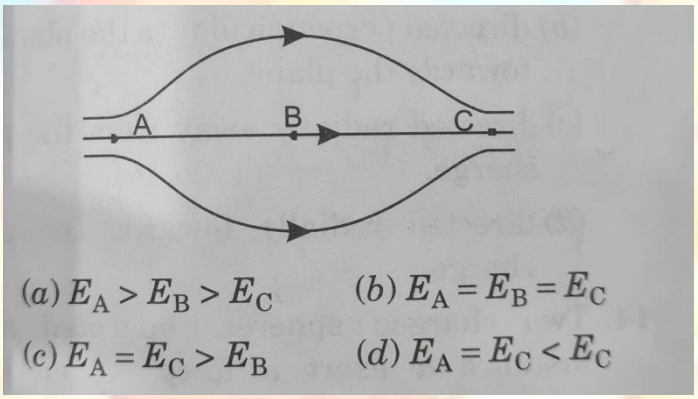
21. The following figure shows cross-sections through three long conductors of



the same length and material, with square cross-section of edge lengths as shown. Conductor B will fit snugly within conductor A, and conductor C will fit snugly within conductor B. Relationship between their end-to-end resistance is
(a) RA = RB = RC
(b) RA> RB> RC
© RA< RB< R
(d) Information is not sufficient



22.The figure shows some of the electric field lines corresponding to an electric field. The figure suggests:
23. Let N_1 be the number of electric field lines going out of an imaginary cube of side a that encloses an isolated point charge 2q and N_2 be the corresponding number for an imaginary sphere of radius a that encloses an isolated point charge 3q. Then ($N_1/N2$) is:
(I) 1/π (b) 2/3 (c) 9/4 (d)π



Chemistry

Topics: 1) INVESTIGATORY PROJECT (rough draft).
Directions: Min. number of pages: 10 (excluding cover page, certificate page, acknowledgement)

Project Topics :
1.Rusting of iron (Roll no-1-7)
2.Presence of oxalate ion in Guava fruit and different stages of ripening .(Roll No-8-14)
3.Acidity in tea (Roll No-15-21)
4.Comparing lactose percentage between whole milk and powdered milk.(Roll No-22-28)
5.Electrolyte turns on the solar cells(Roll no-28-35)

Learning objectives: Students will be able to design and carry out scientific experiments as well as accurately record and analyse the results of such experiments.

Working models

- Use of waste thermacoal sheet into clay by using acetone (Roll no-1-4) https://youtube.com/shorts/VaTBrdsK4z0?si=FIPC6xTqAjc_Gqie
- Food Adultceration (Ghee, Khoya or Milk)(Roll no-5-12)

  https://youtu.be/ue9cE7YdjNU?si=MmvreL2OQsGYe12l
- Extraction of Copper from its ore by using electrolysis(Electroplating machine) (Roll no 19-22)

  https://youtu.be/pZfwcSnJwYI?si=hpVm52MZ1eeDXuSh
- Cleaning action of detergent by using surface tension (soap and the effect it has on surface tension.(Roll no-12-18)

  https://youtu.be/rCU9E-dbRhk?si=Kz4_zALFzARY-Drc

  https://youtu.be/fH895xcx1O8?si=2jKl8UsK-pXougoz
- Nuclear chain reaction (roll no 29-34)

  https://youtu.be/ppqw8Gt8yLE?si=HrVAS-FlmnLJZycX
- Working of electrochemical cell(Roll no 23-28)
  https://youtu.be/afEX2FD4Ado?si=7q69kirKxRQwmKi9

Chemistry Assignment

Q1. 1. The charge required for the reduction of 1 mol of MnO_4^- to MnO_2 is
(a) 1 F
(b) 3 F
(c) 5 F
(d) 6F

2. If limiting molar conductivity of Ca^{2+} and Cl^- are 119.0 and 76.3 S

$cm^2\ mol^{-1}$, then the value of limiting molar conductivity of CaCl2 will be
(a) 195.3 S $cm^2\ mol^{-1}$
(b) 271.6 S $cm^2\ mol^{-1}$
(c) 43.3 S $cm^2\ mol^{-1}$
(d) 314.3 S $cm^2\ mol^{-1}$

3. NH4NC is used in salt bridge because
(a) it forms a jelly like material with agar-agar.
(b) it is a weak electrolyte.
(c) it is a good conductor of electricity.
(d) the transport number of NH_4^+ and NO_3^- ions are almost equal.

4. The reaction, $3ClO^-(aq) \rightarrow ClO_3(aq) + 2Cl^-(aq)$ is an example of
(a) Oxidation reaction
(b) Reduction reaction
(c) Disproportionation reaction
(d) Decomposition reaction

5. The emf of the cell:
Ni / Ni^{2+} (1.0 M) // Au^{3+} (1.0 M) / Au (E° = -0.25 V for Ni^{2+}/Ni; E° = 1.5 V for Au^{3+}/Au) is
(a) 1.25 V
(b) -1.25 V
(c) 1.75 V
(d) 2.0 v

6. The standard emf of a galvanic cell involving cell reaction with n = 2 is formed to be 0.295 V at 25° C. The equilibrium constant of the reaction would be
(a) 1.0×10^{10}
(b) 2.0×10^{11}
(c) 4.0×10^{12}
(d) 1.0×10^{2}
[Given F = 96500 (mol^{-1}); R = 8.314 $JK^{-1}\ mol^{-1}$

7. If $E°_{Fe^{2+}/Fe}$ = -0.441 V and $E°_{Fe^{2+}/Fe^{2+}}$ = 0.771 V, the standard EMF of the reaction,
$Fe + 2Fe^{3+} \rightarrow 3Fe^{2+}$ will be
(a) 1.212 V
(b) 0.111 V
(C) 0.330 V
(d) 1.653 V

8. Mole fraction of glycerine $C_3H_5(OH)_3$ in solution containing 36 g

of water and 46 g of glycerine is
(a) 0.46
(b) 0.40
(c) 0.20
(d) 0.30

9. Out of molality (m), molarity (M), formality (F) and mole fraction (x), those which are independent of temperature are
(a) M, m
(b) F, x
(c) m, x
(d) M, x

10. Which of the following condition is not satisfied by an ideal solution?
(a) $\Delta H_{mixing} = 0$
(b) $\Delta V_{mixing} = 0$
(c) Raoult's Law is obeyed
(d) Formation of an azeotropic mixture

11. The boiling point of an azeotropic mixture of water and ethanol is less than that of water and ethanol. The mixture shows
(a) no deviation from Raoult's Law.
(b) positive deviation from Raoult's Law.
(c) negative deviation from Raoult's Law.
(d) that the solution is unsaturated.

12.. Which has the lowest boiling point at 1 atm pressure?
(a) 0.1 M KCl
(b) 0.1 M Urea
(c) 0.1 M $CaCl_2$
(d) 0.1 M $A1Cl_3$

13. Osmotic pressure of a solution is 0.0821 atm at a temperature of 300 K. The concentration in moles/litre will be
(a) 0.33
(b) 0.666
(c) 0.3×10^{-2}
(d) 3

14. People add sodium chloride to water while boiling eggs. This is to
(a) decrease the boiling point.
(b) increase the boiling point.
(c) prevent the breaking of eggs.

(d) make eggs tasty.

15. The van't Hoff factor (i) accounts for
(a) degree of solubilisation of solute.
(b) the extent of dissociation of solute.
(c) the extent of dissolution of solute.
(d) the degree of decomposition of solution

16. The molal elevation constant depends upon
(a) nature of solute.
(b) nature of the solvent.
(c) vapour pressure of the solution.
(d) enthalpy change.

Directions: These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following four responses.
(a) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
(b) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
(c) If the Assertion is correct but Reason is incorrect.
(d) If both the Assertion and Reason are incorrect.

Q.1. Assertion : Molarity of a solution in liquid state changes with temperature.
Reason : The volume of a solution changes with change in temperature.

Q.2. Assertion : If a liquid solute more volatile than the solvent is added to the solvent, the vapour pressure of the solution may increase i.e., $p_s > p_o$.
Reason : In the presence of a more volatile liquid solute, only the solute will form the vapours and solvent will not.

	Q.3. Assertion : If one component of a solution obeys Raoult's law over a certain range of composition, the other component will not obey Henry's law in that range. **Reason :** Raoult's law is a special case of Henry's law.	
	Q.4. Assertion : Azeotropic mixtures are formed only by non-ideal solutions and they may have boiling points either greater than both the components or less than both the components. **Reason :** The composition of the vapour phase is same as that of the liquid phase of an azeotropic mixture	
	Q.5. Assertion : When methyl alcohol is added to water, boiling point of water increases. **Reason :** When a volatile solute is added to a volatile solvent elevation in boiling point is observed.	
	Q.6. Assertion : When NaCl is added to water a depression in freezing point is observed. **Reason :** The lowering of vapour pressure of a solution causes depression in the freezing point.	
	Q.7. Assertion : When a solution is separated from the pure solvent by a semi- permeable membrane, the solvent molecules pass through it from pure solvent side to the solution side **Reason :** Diffusion of solvent occurs from a region of high concentration solution to a region of low concentration	

solution.

Q.8. Assertion : The resistivity for a substance is its resistance when it is one meter long and its area of cross section is one square meter.
Reason : The SI units of resistivity is ohm metre (m).

Q.9. Assertion : On increasing dilution, the specific conductance keep on increasing.
Reason : On increasing dilution, degree of ionisation of weak electrolyte increases and molality of ions also
increases.

Q.10. Assertion : Galvanised iron does not rust.
Reason : Zinc has a more negative electrode potential than iron

Q.11 Assertion:At equilibrium std emf is zero

Reason:This is because net lose or gain of electctron at equilibrium is zero

Case study type question

1.Read the passage given below and answer the following questions:
The concentration of potassium ions inside a biological cell is at least twenty times higher than the outside. The resulting potential difference across the cell is important in several processes such as transmission of nerve impulses and maintaining the ion balance. A simple model for such a concentration cell involving a metal M is $M_{(s)}$ | M^{+}(aq.; 0.05 molar) || M^{+}(aq; 1 molar) |$M_{(s)}$.
The following questions are multiple choice questions. Choose the most appropriate answer:
(i) For the above cell,

(a) E_{cell} <0;ΔG>0**(b)** E_{cell} >0;ΔG<0**(c)** E_{cell} <0;ΔG°>0**(d)** E_{c}
<0;Δ>0 >0;Δ<0 <0;Δ°>0 >0;Δ
(ii) The value of equilibrium constant for a feasible cell reaction is

(a) < 1 (b) = 1 (c) > 1 (d) zero
(iii) What is the emf ofthe cell when the cell reaction attains equilibrium?

(a) 1 (b) 0 (c) > 1 (d) < 1
(iv) The potential of an electrode change with change in

(a) concentration of ions in solution (b) position of electrodes
(c) voltage of the cell (d) all of these
2.Read the passage given below and answer the following questions :
The potential of each electrode is known as electrode potential. Standard

electrode potential is the potential when concentration of each species taking part in electrode reaction is unity and the reaction is taking place at 298 K. By convention, the standard ectrode potential of hydrogen (SHE) is 0.0 V. The electrode potential value for eacfi electrode process is a measure of relative tendency of the active species in the process to remain in the oxidisedlreduced form. The negative electrode potential means that the redox couple is stronger reducing agent than H^+/H_2 couple. A positive electrode potential means that the redox couple is a weaker reducing agent than the H^+/H_2 couple. Metals which have higher positive value of standard reduction potential form the oxides of greater thermal stability.

In these questions (i-iv), a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

(i) **Assertion :** An electrochemical cell can be set-up only if the redox reaction is spontaneous.

Reason : A reaction is spontaneous if the free energy change is negative.

(a) Assertion and reason both are correct statements and reason is corre for assertion.

(b) Assertion and reason both are correct statements but reason is not c explanation for assertion

(c) Assertion is correct statement but reason is wrong statement.

(d) Assertion is wrong statement but reason is correct statement.

(ii) **Assertion :** The standard electrode potential of hydrogen is 0.0 V.

Reason : It is by convention.

(a) Assertion and reason both are correct statements and reason is corre assertion.

(b) Assertion and reason both are correct statements but reason is not c for assertion

(c) Assertion is correct statement but reason is wrong statement.

(d) Assertion is wrong statement but reason is correct statement.

(iii) Assertion : The negative value of standard reduction potential means that reduction takes place on this electrode with reference to hydrogen electrode.

Reason : The standard electrode potential of a half cell has a fixed value.

(a) Assertion and reason both are correct statements and reason is corre assertion.

(b) Assertion and reason both are correct statements but reason is not c assertion

(c) Assertion is correct statement but reason is wrong statement.

(d) Assertion is wrong statement but reason is correct statement.

(iv) **Assertion :** The absolute value of electrode potential cannot be determined experimentally.

Reason : The electrode potential values are generally determined with respect to SHE.

(a) Assertion and reason both are correct statements and reason is corre assertion.

(b) Assertion and reason both are correct statements but reason is not c for assertion

(c) Assertion is correct statement but reason is wrong statement.

(d) Assertion is wrong statement but reason is correct statement.

NCERT NUMERICALS AND QUESTIONS

CH-SOLUTION

1. Vapour pressure of pure water at 298k is 23.8mmHg . 50gm of urea(NH_2CONH_2) is dissolved in 850gm of water . Calculate the vapour pressure of water the solution and its relative lowering .
2. Boling point of water at 750mmHg is 99.63^{o}c . How sucrose is to be added to 500g of water such that it boil at 100^{o}C.
3. Calculate the mass of ascorbic acid (Vitamin C , $C_6H_8O_6$) to be dissolve in 75gm of acetic acid to lower its melting point by 1.5^{o}C. K_f = 3.9K Kg mol^{-1}
4.Calculate the osmotic pressure in pascals extered by a solution prepare by dissolving 1.0 gm of polymer of molar mass 185,000 in 450ml of water at37^{o}C.
5. Calculate the amount of benzoic acid (C_6H_5COOH) required for preparin250ml of 0.15M solution in methanol.
6. Calculate the depression in freezing point of water when 10gm of $CH_3CH_2CHClCOOH$ is added to 250gm of water . $K_a = 1.4x10^{-3}$,
Given K_f= 1.86K Kg mol^{-1} .
7. **Calculate the emf of the cell in which the following reaction takes place:**
$Ni(s)+2Ag^+$ (0.002 M) -> Ni^{2+} (0.160 M)+2Ag(s) Given that $E^{(-)}_{(cell)}$ = 1.05 V .
8.**The cell in which the following reaction occurs: $2Fe^{3+}$ (aq) + $2I^-$ (aq) —> $2Fe^{2+}$ (aq) +I_2 (s) has E°_{cell}=0.236 V at 298 K. Calculate the standard Gibbs energy and the equilibrium constant of the cell reaction.**
9. **Why does the conductivity of a solution decrease with dilution?**
10. **. The molar conductivity of 0.025 mol L^{-1} methanoic acid is 46.1 S cm^2 mol^{-1}. Calculate its degree of dissociation and dissociation constant Given $\lambda^\circ(H^+)$=349.6 S cm^2 mol^{-1} andλ°(HCOO-) = 54.6 S cm^2 mol^{-1}**
11. **If a current of 0.5 ampere flows through a metallic wire for 2 hours, then how many electrons would flow through the wire?**

12. **Consider the reaction: $Cr_2O_7^{2-}$-+ 14H^+ + 6e- -> $2Cr_3$+ + 7H_2O What is the quantity of electricity in coulombs needed to reduce 1 mol of $Cr_2O_7^2$**
13. **Write the chemistry of recharging the lead storage battery, highlighting all the materials that are involved during recharging**
14. **Given the standard electrode potentials, K^+/K=-2. 93 V, Ag^+/Ag = 0.80 V, Hg^{2+}/Hg =0.79V, Mg^{2+}/Mg=-2.37V, Cr^{3+}/Cr=0.74V. Arrange these metals in their increasing order of reducing power**
15. **. The conductivity of 0.20 M solution of KCl at 298 K is 0.0248 S cm^{-1}. Calculate its molar conductivity**

Biology	• Revise chapter 5&6 (Principles of Inheritance and variation, Molecular basis of Inheritance) **Project Work** **Project Work** • **In vitro fertilization- Roll no. 1** • **Cancer- Roll no. 2,3,10** • **Female reproductive system- Roll no. 4** • **Biotechnology and its application- Roll no. 5** • **Sewage treatment plant- Roll no. 6,7** • **ART technology- Roll no.8** • **Microbes in human welfare- Roll no.9,11** • **Double fertilization in Angiosperms- Roll no.12** **Models** **Working Model of DNA: Roll no. 1** - Design a working model that demonstrates the structure and function of DNA. - Show the double helix structure, including the arrangement of nucleotides. - Explain the process of DNA replication and its significance in genetics. - https://youtu.be/nRh2Sds-zAU **Zoological park: Roll no. 2,3** - Create a mini zoological park model representing various animal habitats. - Include different species and their natural environments. - Explain the significance of biodiversity and conservation efforts. - https://youtu.be/ar3JK0Qbxmw **Different embryo stages in human- Roll no. 4** - Model of Different Embryo Stages in Humans: - Create a model depicting the various stages of human embryonic development. - Illustrate key stages such as zygote, blastocyst, gastrula, and organogenesis. - Explain the importance of each stage in the development of the embryo. - https://youtu.be/JO83ps8Yf40 **Sewage treatment plant: Roll no. 5, 6** - Develop a model to demonstrate the processes involved in sewage treatment. - Highlight the stages of primary, secondary, and tertiary treatment. - Discuss the importance of sewage treatment in maintaining environmental health and sustainability. -**https://youtu.be/5lPKNC9GMbc** **Working Model to Show Double Fertilization in Plants: Roll no. 9, 10** - Construct a working model that illustrates the process of double fertilization in flowering plants. - Explain the roles of pollen tube, sperm cells, egg cell, and polar nuclei. - Discuss the significance of double fertilization in plant reproduction and seed development. - https://youtu.be/Pq_NAcw8Ay8?si=W6lk26BynmAmqYMH **Working model of Arms: Roll no.7,8** - Explain role of Muscle fibers in arm movement - Make it a working model **https://youtu.be/Ox7kEeHUkqs?si=R4HFDTBCDiT238yn**

ASSIGNMENT

1. The nucleic acid synthesis takes place in

a) 3'-5' direction b) 5'-3' direction c) Both ways d) Any direction

2. What is the nature of the strands of the DNA duplex?

a) Anti-parallel and complementary b) Identical and complementary

c) Anti=parallel and non-complementary d) Dissimilar and non-complementary

3. Hershey and Chase's experiment was based on the principle

a) Transformation b) Translation c) Transduction d) Transcription

4. AUG stands for

a) Alanine b) Methionine c) N-formyl methionine d) Glycine

5. The reason behind the anti-parallel strand of DNA is

a) Hydrogen bond b) Ionic bond

c) Phosphodiester bond d) Disulphide bond

6. In a transcription unit, the promoter is located towards

a) 5'end of the structural gene

b) 3'end of the structural gene

c) 5'end of the template strand

d) 3'end of the coding strand

7. The primer in DNA replication is

a) Small ribonucleotide polymer

b) Helix destabilizing protein

c) Small deoxyribonucleotide polymer

d) Enzyme joining nucleotides of new strands

8. Genetic information is transferred from nucleus to cytoplasm through

a) RNA b) Anticodon c) DNA d) Lysosomes

9. The enzyme involved in transcription

a) DNA Polymerase I b) DNA Polymerase III

c) RNA Polymerase d) DNA Polymerase II

10. Non-sense codons participate in

a) Releasing t-RNA from polynucleotide chain

b) Formation of unspecified amino acids

c) Terminating message of gene-controlled protein synthesis

d) Conversion of sense DNA into non-sense DNA

11. Give a reason for the discontinuous synthesis of DNA on one of the parental strands?

12. Sometimes, the young ones born have an extremely different set of eyes or limbs. Give a relevant explanation for the abnormality.

13. What are the functions of the :

a) Methylated guanosine cap

b) Poly-A tail 14. What is the function of amino acyl t-RNA synthase? Write its function.

15. State the function of histones in DNA packaging.

16. What is an operon? Explain an inducible operon.

17. Explain the process of DNA fingerprinting.

18. Write about Human Genome Project.

19. Enumerate the post-transcriptional modifications in a eukaryotic mRNA with suitable diagram.

20. Describe semi-conservative model of DNA replication with proper diagram.

Which of the following must be true for a dialysis chamber?
Circle 'Yes'or 'No' to indicate your response.

Is this necessary for dialysis?	YesorNo
Used dialysis solution is recycled back to the chamber as fresh dialysis solution.	Yes/No
The hollow pipes should have semi-permeable walls.	Yes/No
hollow pipes should be higher than that inside the human body	Yes/No

1 What type of blood vessel brings in the blood with wastes?

2 Which organ acts like a natural dialysis chamber in the human body?

A. Heart
B. Brain
C. Kidneys
D. Pancreas

Sanjeev compared the results of the activity with a new potto confirm his findings. Which of the following best represents then ewpot?

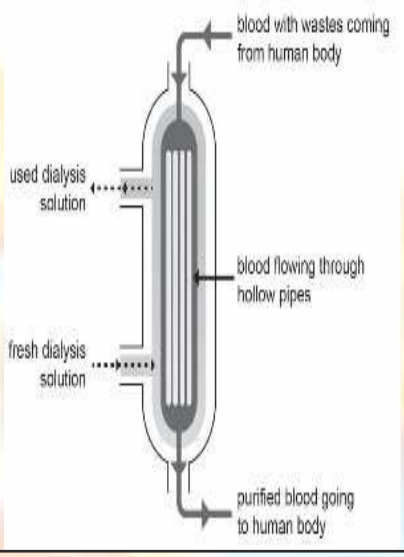
E. 

B. 

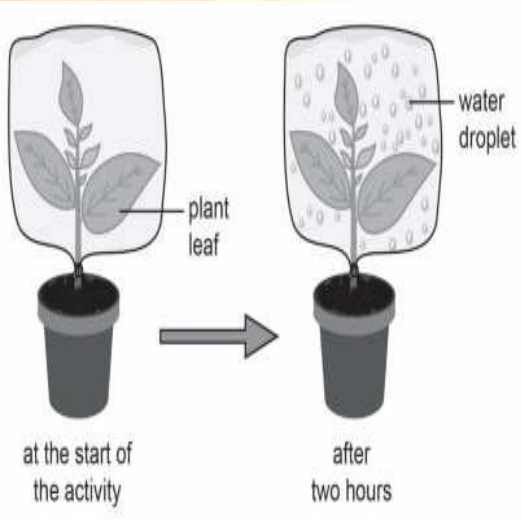
C. 

Sanjeev compared the results of the activity with a new pott confirm his findings. Whichof the following best represents the new pot?

The process of filtering blood outside the human body to remove harmful wastes is called Dialysis. Dialysis takes place in an enclosed chamber.The given diagram shows how dialysis works.



Sanjeev wanted to check whether plant leaves release water vapour. He took a potted plant and covered the plant with a plastic bag.The picture below shows what observed after 2hours.



IT	**Revise Ls-1,2,3** **Model** **SDG GOALS WORKING MODEL(VARUN& AVI)** **https://youtu.be/cFFkTV-FKbA?si=06I2UxkFzZrANvIe** **Assignment** **Q1. A _____ is a set of formats that you can apply to selected pages, text, frames.** a. Style b. Template c. Image d. Graphics **Q2. Which of the following styles is not offered by OpenOffice.org?** a. Page Style b. Frame Style c. Presentation Style d. Video Style **Q3. Which style affect the selected text such as font size, bold and italics format?** a. Cell Styles b. Numbering Styles c. Character Styles d. Frame Styles **Q4. Styles and Formatting Window is available in _____ menu.** a. Format b. Insert c. Tools d. View **Q5. When Fill Format mode is active, _____ click undo last Fill Format action.** **a.** right and left b. left c. right d. None of the above **Q6. Shortcut to copy image is ctrl + _____** a. V b. X c. C d. None of the above **Q7 .To open insert picture dialog box, click on _____ menu.** a. Format b. Insert c. View d. Tools **Q8.What is the full form of HTML?** a. Hyper Text Markup Language b. Hyper Text Main Language c. Higher Text Markup Language d. None of these **Q9. What can one do to acquire positivity?** a) Keep the negative thoughts away b) Practice yoga c) Breathing exercises d) Stay away from comparison

10. _____ means combining data in a spreadsheet from different worksheets into master worksheet.

a. Hyperlinks b. Consolidating c. Linking d. Filter

11. **Anshuman believes that he can do any task and also he is not scared of taking risk. This shows that he is ____**

a) Self-Aware b) Self-Motivated

c) Self-Confident d) Problem Solving

12. Hema holds the title of chartered accountant. On a daily basis, she used to keep track of the accounts on a spreadsheet. There are a number of steps that she must follow at all times. Can you recommend a spreadsheet feature that will allow her to complete these activities quickly and without having to repeat the processes each time?

a. Record Changes b. Track Changes c. Goal Seek d. Using Macros

13. **Raj has produced a worksheet in which he has entered all of his employees' details. He wants each employee to look over the spreadsheet and, if necessary, change their address and phone number. He'd also like to know what modifications his employees have made. Which aspect of the spreadsheet should he enable so that he can view the changes that his staff have made?**

a. Macro b. Link Workbook c. Change Worksheet d. Track Changes

14. Direction: In the questions given below, there are two statements ma Reason (R). Choose the correct option out of the choices given below in

Assertion (A): Verbal communication takes place in real time

Reason (R): Written communication is synchronous in character as it a

	a.Both (A) and (R) are correct and (R) is the correct explanation of (A). b. Both (A) and (R) are correct and (R) is not the correct explanation of (A). c.(A) is true and (R) is false d. (R) is true and(A) is false.
	15. GUI stands for ..... a. Group User Interface b. Graphical Utility Interface c. Graphical User Interface d.Guided User Interface
Physical Education	**Complete the below mentioned practical in your practical file:** **1.Athletic Track(400m)** **2.One Game of your choice. Draw the diagram.** **3. Five any Yoga Asanas.** **4.Shot Put(Circle)** **5.Long Jump (Pit)**
Music	**Prepare Project file as shared in class group.**