



Open-Test-2074(Mangshir)

Class: XI (Science)

Time: 3Hrs

English

- 1. How does the story explore the theme of reincarnation? Explain. (The Lost Doll) 10
- 2. What do you mean by "Many things fell that year"? 5
- 3. Character Sketch of Phoenix Jackson. 5
- 4. Add a decision to these remarks. 5

- i. I'm a bit tired today. I think _____
- ii. I'm fed up with my job. _____
- iii. She seems very friendly. _____
- iv. I'm getting much too fat. _____
- v. I've had enough of these mice running about all over the flat. _____

- 5. Change the following sentences as shown in the example. 5

Example : Somebody's watching us.
We're being watched.

- i. Someone's following us.
- ii. Some men are pulling down the house.
- iii. Another car's overtaking us.
- iv. Someone's looking after the children.
- v. Two policemen are questioning the man.

- 6. Write two sentences about each of these people using yet and still telling what these people: 5

Example: Shyam is unemployed.

A: He hasn't found a job yet.

B: He's still looking for a job.

(Have not done yet, What they are still doing)

- i. Lias doesn't know whether she had passed her exams.
- ii. Ajit's house is still on the bank of the river.
- iii. Shankar's essay is only half written.
- iv. Mary is not in her office-It's her lunch time.
- v. Peter is a bachelor.

- 7. Write similar conversations as in the example:-5

Example: drive/fast

A: Can't you drive a bit faster than that?

B: No I can't. I'm driving as fast as I can.

- i. write/neat
- ii. dance/good
- iii. Speak/clear
- iv. type/careful
- v. play/quiet

8. About two thousand years ago, Aristotle noticed that language was indeterminate with regard to matters of truth and falsity - any linguistic expression was an instance of logos semantikos but not all expressions were true or false. At the beginning of the twentieth century, the neo-positivist scholars of the Vienna Circle had forgotten much of Aristotle's lesson. Rather discontented with the vagueness and potential ambiguity of everyday language, they set as their main task to translate ordinary sentences into a better wording. R. Carnap even formulated the two necessary and sufficient conditions under which alone a sentence could be deemed significant: a proposition was logically correct and meaningful if and only if it could either be confirmed by empirical evidence or derived through successive inferences from correct premises.

Much of J. L. Austin's epoch is directed against this oversimplified view of language. A central tenet of Austin's theory is that no philosophical school can afford to study language in itself, without paying any attention to pragmatic aspects. Moreover, Austin claims, the distinctions which philosophers think up in their studies are much less valuable and subtle than those already made in ordinary speech. Austin's first move in *How to Do Things with Words* is to question the validity of the long cherished assumption that the main function of language is to give a true or false description of objective reality. Empirical evidence compels him to conclude that there are actually numberless utterances to which one cannot ascribe any truth-value at all. When one apologizes or complains or promises something or proposes marriage or even performs one, he does not describe any preexistent state of affairs nor points to any external reality but rather produces a conventional referent by the very issuing of that particular utterance.

Questions:

(10)

- a. What is Aristotle's view on language and linguistics?
 - b. What is the central idea of Austin's theory?
 - c. Does Austin's theory counter or support Aristotle's view? How?
 - d. Write the meaning of 'potential' and 'ambiguity'.
 - e. How do empirical evidences affect language?
9. Write a letter to your friend telling him/her about your plan for your upcoming winter vacation. -10

Physics

Numericals

1. A coin placed on a disc rotates with speed of $33\frac{1}{3}$ rev. min^{-1} provided that the coin is not more than 10cm from the axis. Calculate the coefficient of static friction between the coin and the disc.
2. A 400 kg satellite is in a circular orbit of radius $2R_e$ about the earth. How much energy is required to transfer it to a circular orbit of radius $4R_e$? What are the changes in the kinetic energy and potential energies?

3. What is the result of mixing 100g of ice at 0°C and 100g of water 100°C . Latent heat of fusion of ice 336103Jk^{-1} , specific heat of water $=4200\text{Jkg}^{-1}\text{k}^{-1}$.
4. A metre scale is placed along the axis of a convex mirror of focal length 25 cm, its nearer end being at a distance of 50 cm. Calculate the size of the image formed

Long questions

1. Define centripetal and centrifugal forces. Derive an expression for the force acting on a body moving with uniform speed along a circular path.
2. What is escape velocity? Show that the escape velocity of a body is $\sqrt{2Rg}$, where symbols have their usual meanings.
3. Define specific heat capacity of a substance. Describe the method of mixture to measure the specific heat capacity of a solid.
4. State the principle of conservation of linear momentum. Show that in collision between two moving bodies in which no external force act, the conservation of linear momentum may be deduced directly from Newton's laws of motion.

Short questions

1. 1. If \vec{A} and \vec{B} are non zero vectors, is it possible for $\vec{A} \times \vec{B}$ & $\vec{A} \cdot \vec{B}$ both to be zero? Explain.
2. Why it more difficult to revolve a stone by trying it to longer string than by trying it to a shorter strings?
3. How does 'g' at a point vary with the distance from the centre of the earth? Where is the highest value of g? Explain.

4. During pregnancy, women often develop back pains from learning backward while walking. Why? Do they have to walk this way?
5. Why does food cook faster in a pressure cooker than in an open pot?
6. A spherical mirror is immersed in water. Will its focal length change?
7. What similarities do electrical forces have with gravitational forces? What are the significant differences?
8. When a car rounds a curved suddenly, the person sitting inside is thrown outwards. Give reason?

Chemistry

Very short

1. What are the applications of Graham's Law of diffusion and Dalton's law of partial pressure?
2. State and explain law of multiple proportions.
3. What is universal gas constant? Write the values of R.
4. At what condition the value of $p \cdot v$ is always constant?
5. Explain the law of reciprocal proportion with examples.
6. Why is aqueous solution of sodium extract alkaline?
7. What happens when gas obtained by heating oxalic acid with con. H_2SO_4 is passed through a) NaOH b) Finely divided Ni.
8. Give a reaction to show the acidic nature of CO_2

Short

1. Write short notes on characteristics of s, p, d and f block elements

2. The Mg^{++} and Na^+ have same number of electrons. Which ion would you expect to have the smaller radius? Explain.
3. Differentiate between real gas and ideal gas.
4. State and explain Boyle's law with graph.
5. Derive $PV=nRT$. Under what condition does a gas follow this relation?
6. Give laboratory preparation of CO.
7. Write short notes on characteristics of homologous series.

Numerical

1. A mixture of Ozone and Oxygen containing 20% by the volume of Ozone diffused through a porous plug in 172 seconds, while the same volume of pure Oxygen took 164 seconds to diffuse through the same plug. Calculate the relative density of Ozone.
2. State Boyle's law and Charles law. Derive $PV = nRT$. 0.5gm of volatile liquid was introduced into a globe of 1000ml capacity. The globe was heated to $91^\circ C$, so that all the liquid vaporized and exerted a pressure of 190mm of Hg.
3. Phosphorous forms two compounds with Chlorine in one compound, 19.4gm of P combines with 6.64gm of Cl, in another reaction 0.660gm of P combines with 3.78gm of Cl. Are these data in accordance with the law of multiple proportions?
4. Carbon dioxide contains 27.27% of carbon, carbon disulphide contains 15.97% carbon and sulphur dioxide 50% of sulphur. Show that these data are in agreement with the law of reciprocal proportions.
5. A small quantity of gaseous NH_3 & HBr are introduced simultaneously into the opposite ends of an open tube which is 2m long. Calculate the distance of white solid NH_4Br from the end which was used to introduce NH_3 .

Zoology

1. Describe the process of reproduction of Plasmodium in its primary host. Or, Describe the life cycle of Plasmodium in mosquito. Or, discuss the gamogony and sporogony phases of life cycle of Plasmodium Vivax.
2. Elaborate the life cycle of Plasmodium in man. Or, What is schizogony? Discuss it with reference to the life cycle of malarial parasite.
3. Discuss with examples how Lamarckism explains the theory of organic evolution.

Botany

1. Describe the structure and life cycle of Marchantia in detail.
2. Describes different types of ecological factors in detail with suitable examples.
3. Describe the ecological pyramids in detail with the reference to number, biomass and energy.

Mathematics

1. Find, from the first principle (from the definition), the derivative of the If 'a' is a positive real number and $x \in \mathbb{R}$ then proves that: $|x| < a$ if and only if $-a < x < a$.
2. For any two real numbers x and y, prove that $|x + y| \leq |x| + |y|$.
3. Express $\frac{i}{i+1}$ in the polar form.
4. Find the values of x and y if $(x + 2) + yi = (3 + i)(1 - 2i)$.
5. Find the square roots of the complex number $-5 + 12i$.
6. Find the value of k so that the equation $3x^2 + 7x + 6 = 0$ has one root equal to zero.

7. If one root of the equation $ax^2 + bx + c = 0$ be the square of the other, Prove that $b^3 + a^2c + ac^2 = 3abc$

8. Evaluate: $\lim_{x \rightarrow 0} \frac{a^x + b^x - 2}{x}$

9. Evaluate: $\lim_{x \rightarrow 0} \frac{\tan 2x - x}{3x - \sin x}$

10. Evaluate: $\lim_{x \rightarrow \theta} \frac{x \cot \theta - \theta \cot x}{x - \theta}$

11. A function f(x) is defined as $f(x) = \begin{cases} \frac{x^2 - x - 6}{x^2 - 2x - 3}, & x \neq 3 \\ \frac{5}{3}, & x = 3 \end{cases}$ is

the function f(x) continuous at

$x = 3$? If not, how can the function be made continuous at $x = 3$?

12. Find $\frac{dy}{dx}$ if $x^3 + y^3 - 3axy = 0$

13. Find $\frac{dy}{dx}$ when $x = t + \frac{1}{t}$ and $y = t - \frac{1}{t}$

14. Find, the derivatives of $\frac{1}{\sqrt{ax+b}}$ from 1st principal.

15. Find, the derivatives of e^{ax+b} from 1st principal.

16. Define a singular matrix. Test whether the matrix

$A = \begin{pmatrix} 3 & 1 & 0 \\ -2 & 1 & -1 \\ -1 & 3 & -2 \end{pmatrix}$ is singular or not.

17. Prove that $\begin{vmatrix} y+z & x-y & x \\ z+x & y-z & y \\ x+y & z-x & z \end{vmatrix} = 3xyz - x^3 - y^3 - z^3$

18. Using Cramer's rule, solve the following equations: $\frac{2}{x} + \frac{3}{y} = 2$

and $\frac{8}{x} + \frac{9}{y} = 7$

19. Using Cramer's rule or row equivalent method solve the following equations:

a. $x + y + z = 6$, $2x + 3y + 5z = 23$ and $7x + 5y - 2z = 1$

Computer

1. State the characteristics of the 4th generation computers.
2. What is mobile computing? Explain.
3. What is Hexadecimal number system? Convert 637_{10} into hexadecimal system.
4. What are logic gates? Differentiate between "NAND" and "NOR" gate with truth tables.
5. What is memory? Differentiate between primary and secondary memory. Why hard disk is popular than floppy disk?
6. Explain the components of computer system with block diagram.