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PART - I

12x1 = 12

Choose the best answer

- If the Earth Shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will.....
a) decrease by 50% b) increase by 50%
c) decrease by 25% d) increase by 300%
- Magnification of a convex lens is.....
a) Positive b) negative c) either positive or negative d) zero
- In a simple circuit, why does the bulb glow when you close the switch?
a) The switch produces electricity b) closing the switch completes the circuit
c) closing the switch breaks the circuit d) the bulb is getting charged
- aprons are used to protect us from gamma radiations
a) Lead oxide b) Iron c) lead d) aluminium
- Which of the following represent 1 amu?
a) mass of a ^{12}C atom b) mass of a hydrogen atom
c) $\frac{1}{12}$ th of the mass of a ^{12}C atom d) mass of ^{16}O atom
- The basis of modern periodic law is.....
a) atomic number b) atomic mass c) isotopic mass d) number of neutrons
- The number of components in a binary solution is.....
a) 2 b) 3 c) 4 d) 5
- The secondary suffix used in IUPAC nomenclature of an aldehyde is.....
a) -ol b) -oic acid c) -al d) - one
- Krebs's cycle takes place in.....
a) chloroplast b) mitochondrial matrix
c) stomata d) inner mitochondrial membrane
- The segments of leech are known as.....
a) metameres b) somites c) proglottids d) strobila
- To increase the sugar production in sugar canes they are sprayed with.....
a) auxin b) cytokinin c) gibberellins d) Ethylene
- The..... units form the backbone of the DNA
a) 5 carbon sugar b) phosphate c) nitrogenous bases d) sugar phosphate

Part - II

II. Answer any 7 question. question no 22 is compulsory

7x2 = 14

- State Newton's second law
 - True or false (If false give the correct statement)
i) The gram atomic mass of an element has no unit ii) Molar mass of CO_2 is 42g
 - Answer the following questions using the data given below
i) A and R are correct, R explains the A
ii) A is correct, R is wrong iii) A is wrong, R is correct iv) A and R are correct, explain A
- Assertion: An uncleaned copper vessel is covered with greenish layer
Reason: copper is not attacked by alkali

16. Differentiate reversible and irreversible reactions
17. Draw and label the structure of oxysomes
18. What is the shape of RBC in human blood?
19. How can you determine the age of the fossils?
20. Mention the diseases caused by tobacco smoke
21. What is stage?
22. If you keep ice at 0°C and water at 0°C in either of your hands in which hand you will feel more chilliness? why?

PART - III

III. Answer any 7 question (question no 32 is compulsory)

23. List any four properties of light
24. Distinguish between the resistivity and conductivity of a conduction
25. a) Name three animals which can hear ultrasonic vibration b) Explain why, ceilings of concert halls are curved
26. Given an example each
i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas
27. How is ethanoic acid prepared from ethanol? given the chemical equation
28. Match columns, I, II and III correctly

| I | II | III |
|--------|---------------------|-----------------------------|
| Organs | Membranous covering | location |
| Brain | Pleura | abdominal cavity |
| Kidney | Capsula | mediastinum |
| Heart | Meninges | enclosed in thoracic cavity |
| Lungs | Pericardium | Cranial cavity |

29. medullated and non-medullated nerve fibre - Differentiate
30. Write the characteristic of insect Pollinated flowers
31. state the applications of DNA fingerprinting technique
32. What is the PH of 1.0×10^{-5} Molar solution of KOH?

PART - IV

IV Answer all the question

33. Describe rocket propulsion (or)
what is a nuclear reactor? Explain its essential parts with their function
34. Given the salient features of " modern atomic theory" (or)
a) state the reason for additions of caustic alkali to bauxite are during purification of bauxite
b) Along with cryolite and alumina, another substance is added to the electrolyte mixture. name the substance and given one reason for the addition
35. Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose (or)
a) Tidal energy is..... type of energy
b) What will happen if trees are cut down?
c) What are the advantages of using biogas?