

QUARTERLY EXAMINATION - 2012-13
STANDARD - X

Time : 2.30 hrs

SCIENCE

Marks: 75

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- INSTRUCTION:**
1. Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.
 2. This question paper contains **THREE SECTIONS**.
 3. Use blue or black ink to write and pencil to draw diagram

SECTION - I**(MARKS : 15)**

- Note :**
- (i) Answer all the 15 questions.
 - (ii) Choose the correct answer from the four alternatives given in the brackets.
 - (iii) Choose the correct answer and write the option code & the corresponding answer
15 × 1 = 15

1. Theory of natural selection was proposed by
(a) Charles Darwin (b) Edward Jenner
(c) Gregor Johann Mendel (d) Jean Baptiste Lamarck.
2. The first vaccine injected into a just born baby is _____
(a) Oral polio (b) D.P.T. (c) D.P.T. and polio (d) B.C.G
3. _____ is one of the methods of reproduction in unicellular organisms like amoeba and bacteria.
(a) Fragmentation (b) Binary fission (c) Budding (d) Spore formation.
4. The kind of pollination in flowers by birds is called
(a) Endomophily (b) Ornithophily (c) Zoophily (d) Anemophily
5. Example for product of green Chemistry is _____
(a) plastic (b) bioplastics (c) halogen flame retardants (d) paper
6. When sunlight passes through window of the classroom, its path is visible. This is due to _____ of light.
(a) reflection (b) scattering (c) interference (d) dispersion
7. When aqueous solution of silver nitrate and sodium chloride are mixed _____ precipitate is formed immediately.
(a) white (b) yellow (c) green (d) red
8. Curd contains
(a) lactic acid (b) tartaric acid (c) citric acid (d) nitric acid
9. _____ is used to find out whether a solution is acidic or basic.
(a) Litmus paper (b) pH measurement (c) Salt paper (d) Washing soda.
10. Particle size of colloidal solution is _____
(a) 10 Å - 1000 Å (b) 10 Å - 2000 Å (c) 10 Å - 1500 Å (d) 15 Å - 2000 Å
11. Law of Inertia is called
(a) Newton's first law of motion (b) Newton's second law of motion
(c) Newton's third law of motion (d) Newton's law of gravitation
12. The Potential difference required to pass a current 0.2A in a wire of resistance 3 ohm is _____
(a) 60V (b) 6V (c) 0.6V (d) 0.06V
13. Kilowatt hour is the unit of _____
(a) potential difference (b) electric power (c) Electric energy (d) charge
14. Cryogenic fuel used in rocket is
(a) liquid helium (b) liquid nitrogen (c) liquid hydrogen (d) liquid ammonia

15. The electric potential difference between two points in an electric circuit is measured by using
(a) watt-hour meter (b) ammeter (c) voltmeter (d) galvanometer

SECTION - II

(MARKS : 40)

Note : Answer any twenty questions.

20 × 2 = 40

16. Consider the following statements.
(a) Somatic variation pertains to body cells and it is inherited.
(b) The genotype of a character is influenced by factors called chromosomes.
Do you agree with the above statements? If not give correct statements.
17. Both Marasmus and kwashiorkor are protein deficiency defects. Marasmus differs from kwashiorkor in enlarged belly and swelling in the face. Are these symptoms for the above diseases correct? If not, correct it.
18. Match the following.
- | | |
|-----------------|-------------------------------------|
| Disease | Causative Agent |
| i) Tuberculosis | - HIV |
| ii) Typhoid | - <i>Mycobacterium tuberculosis</i> |
| iii) Malaria | - <i>Salmonella typhi</i> |
| iv) AIDS | - Plasmodium |
19. Draw the diagram of Neuron and label the parts.
20. Write out the following in sequential arrangement :
Diplotene → Leptotene → Pachytene → Diakinesis → Zygotene
21. What are the functions of Cerebrum ?
22. Draw the diagram of pancreas and label the endocrine part and pancreatic duct.
23. Fill in the blanks based on the relationship.
Thyroxine : Personality hormone
Adrenaline : _____
24. Match the following
- | | |
|-----------|----------------|
| Achene | - Paddy 2 |
| Caryopsis | - Cashew Nut 4 |
| Cypsela | - Clematis 1 |
| Nut | - Tridax 3 |
25. (a) _____ is a modified shoot with a limited growth.
(b) _____ is the first and important event in the development of the fruit and seed.
26. Correct the following food chain and convert into a pyramid of energy.
(Mulberry → Sparrow → Caterpillar → Kite)
27. What is "Tyndall effect" ?
28. Distinguish between true solution and colloidal solution.
29. From the given examples, form the pair of isotopes and isobars.
 ${}_{18}^{40}\text{Ar}$, ${}_{17}^{35}\text{Cl}$, ${}_{20}^{40}\text{Ca}$, ${}_{17}^{37}\text{Cl}$
30. The pH values of certain familiar substances are given below :

S.No.	Substance	pH value
1.	Blood	7.4
2.	Baking soda	8.2
3.	vinegar	2.5
4.	Ammonia	12

Analyse the data in the table and answer the following questions.

- (a) Which substance is acidic in nature?
(b) Which substances are basic in nature?

31. Calculate the gram molecular mass of water from the values of gram atomic mass of hydrogen and oxygen.

gram atomic mass of hydrogen = 1g

gram atomic mass of oxygen = 16 g

32. The colour of the copper sulphate changes when an iron nail is kept in it. Justify.
33. 10g of common salt dissolved in 40g of water. Find the concentration of solution in terms of weight per cent.
34. Assertion (A) : Solubility of KNO_3 increases with increase in temperature
Reason (R) : In endothermic process solubility decreases with increase in temperature.
- A is correct and R is giving correct reasoning
 - A is correct, but R is not giving correct reasoning.
 - A is wrong, but R is correct
 - A and R are wrong.
35. What is catalyst?
36. Explain the third law of motion with an example.
37. Give the differences between Mass and Weight.
38. What do you mean by cryogenic fuel and what is the use of it?
39. Draw the symbols of the following components.

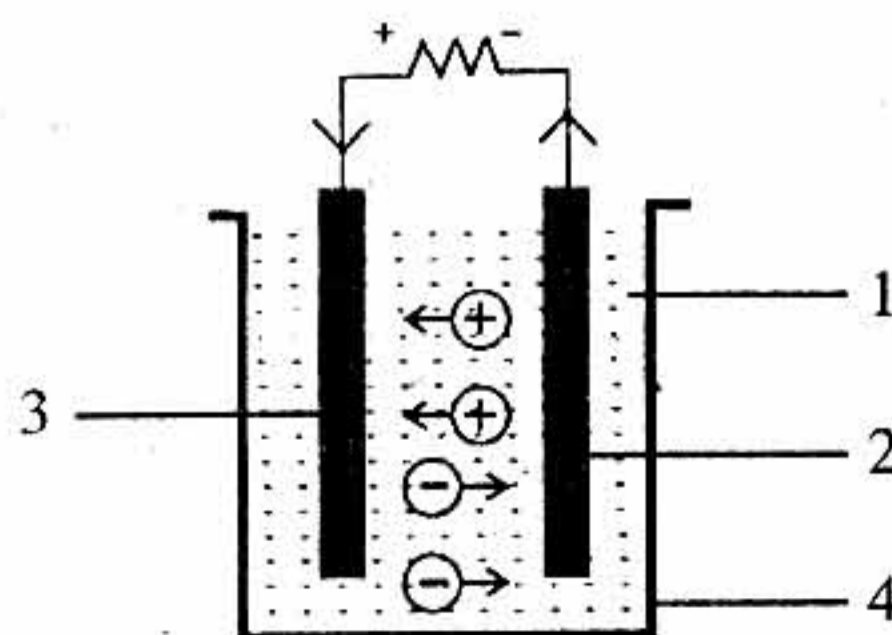
Sl.No.	Components	Symbols
1.	An electric cell	
2.	A wire joint	
3.	A resistor of resistance R	
4.	Voltmeter	

40. Fill in the blanks.

(a) The electric current is expressed by a unit called _____.

(b) Current is measured by _____.

41. Two resistances of 18 ohm and 6 ohm are connected to a 6 V battery in series. Prove that the total resistance of the circuit is greater than the individual resistance.
42. Fuse is with _____ resistance and _____ melting point.
43. The principle of Hydrogen bomb is _____ and the unit of radiation is _____
44. List of Non-conventional sources of energy are given below, some of them are wrong. List out the wrong ones.
(Solar energy, Nuclear energy, Hydro-power plant, Fossil fuels, Thermal power plant)
45. Draw the diagram given below and name the given parts



SECTION - III

(MARKS : 20)

Note : (i) Answer any four questions by choosing one question from each part.

(ii) Each question carries five marks.

(iii) Draw diagram wherever necessary.

4 × 5 = 20

PART - A

46. Human evolution has record of changes for the past 15 million years.
- (a) Name the different species of mankind in chronological order from primitive to modern man.
 - (b) When were the primitive caves developed ?
 - (c) Narrate the life led by early man like hominids.
47. There is a widespread outbreak of malaria in your area.
- (a) Suggest some controlling measures to the local authorities concerned.
 - (b) Pick out the right symptom for malaria.
(Chill and shiver and a raise in temperature / Diarrhoea)

PART - B

48. (a) List out the advantages and disadvantages of self pollination.
(b) Represent the classification of fruits in a diagrammatic sketch.
49. (a) Draw a diagram of rain water harvesting and label its parts.
(b) List out 5 harmful effects of coal burning.

PART - C

50. (a) Tabulate the difference between atom and molecule.
(b) State the finding of modern atomic theory.
51. Calculate the number of moles in
- (a) 12.046×10^{22} atoms of copper
 - (b) 27.95g of iron.

PART - D

52. (a) Space stations are used to study the effects of long-space flight on the human body-justify.
(b) $F = Gm_1m_2/d^2$ is the mathematical form of Newton's law of gravitation, G-gravitational constant, m_1, m_2 are the masses of two bodies separated by a distance d, then give the statement of Newton's law of gravitation.
53. State the achievements of Chandrayaan-I (any 5 points).
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