MODEL QUARTERLY EXAMINATION -2019 www.kalviexpress.in

SCIENCE

Maximum Marks: 75

Part -I

Choose the best answer:

 $12 \times 1 = 12$

Time :2 1/2 Hrs

1. The unit of 'g' is ms⁻². It can be also expressed as

a) cm s⁻¹

Std:10

b) N kg⁻¹

c) N m² kg⁻¹

d) $cm^2 s^{-2}$

2. Power of a lens is -4D, then its focal length is

a) 4m

b) -40m

c) -0.25 m

d) -2.5 m

3. In the Given diagram, the possible direction of heat energy transformation is

a)A ← B, A ← C,B ← C b)A \longrightarrow B, A \longrightarrow C,B \longrightarrow C

 $c)A \longrightarrow B, A \longleftarrow C,B \longrightarrow C$ $d)A \leftarrow B, A \longrightarrow C, B \leftarrow C$

4. The volume occupied by 4.4 g of CO₂ at S.T.P

a. 22.4 litre

b. 2.24 litre

c. 0.24 litre

d. 0.1 litre

5. Chemical formula of rust is

a) FeO.xH₂O

b) FeO4.xH₂O

c) $Fe_2O_3.xH_2O$

d) FeO

6. A 25% alcohol solution means

a. 25 ml alcohol in 100 ml of water

b. 25 ml alcohol in 25 ml of water

c. 25 ml alcohol in 75 ml of water

d. 75 ml alcohol in 25 ml of water

7. Which is formed during anaerobic respiration

a) Carbohydrate

b) Ethyl alcohol

b) Acetyl CoA

d) Pyruvate

8. The body of leech has

a) 23 segments b) 33 segments c) 38 segments d) 30 Segments

9. 'Heart of heart' is called

a) SA node b) AV node

c) Purkinje fibres

d) Bundle of His

10. There are pairs of cranial nerves and pairs of spinal nerves.

(a) 12, 31

(b) 31, 12

(c) 12, 13

(d) 12, 21

11. Which one of the following is an IUCD?

a) Copper – T b) Oral pills c) Diaphragm d) Tubectomy

12. Okasaki fragments are joined together by

a) Helicase

b) DNA polymerase

c) RNA primer

d) DNA ligase

Part -II

Answer any seven questions (Q.No:22 is Compulsory)

 $7 \times 2 = 14$

13. Why does the sky appear in blue colour?

14. Why is tungsten metal used in bulbs, but not in fuse wires?

15. Write the different types of isotopes of oxygen and its percentage abundance.

16. Give an example each i) gas in liquid ii) solid in liquid iii) solid in solid iv) gas in gas

17. Why should the light dependent reaction occur before the light independent reaction?

18. List out the parasitic adaptations in leech.

19. Match the following

Column I

Column II

1. A. Nissil's granules

Forebrain

2. B. Hypothalamus

Peripheral Nervous system

3. C. Cerebellum

Cyton

4. D. Schwann cell

Hindbrain

20. Identify the parts

A, B, C and D

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2Www.kalviexpress.in 21. Assertion and Reasoning

Assertion (A): Diabetes mellitus increases the blood sugar levels.

Reason (R):Insulin decreases the blood sugar levels.

- a. If both A and R are true and R is correct explanation of A
- b. If both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. both A and R are false
- 22. What are Okazaki fragments?

Part -III

Answer any seven questions (Q.No:32 is Compulsory)

 $7 \times 4 = 28$

- 23. List any four properties of light
- 24. Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram.
- 25. The electronic configuration of metal A is 2,8,18,1. The metal A when exposed to air and moisture forms B a green layered compound. A with con. H₂SO₄ forms C and D along with water. D is a gaseous compound. Find A,B,C and D.
- 26. a) What happens when MgSO4.7H2O is heated? Write the appropriate equation

b) Define solubility

- 27. Differentiate the following
 - a) Monocot root and Dicot root b) Aerobic and Anaerobic respiration
- 28. Explain the male reproductive system of rabbit with a labelled diagram.
- 29. Differentiate between systole and diastole. Explain the conduction of heart beat.
- 30. Our body contains a large number of cells 'L' which are the longest cells in the body. L has long and short branch called as 'M' and 'N' respectively. There is a gap 'O' between two 'L' cells, through which nerve impulse transfer by release of chemical substance 'P'.
 - (i) Name the cells L (ii) What are M and N? (iii) What is the gap O? (iv) Name the chemical substance
- 31. (a) Name the gaseous plant hormone. Describe its three different actions in plants.
 - (b) Which hormone is known as stress hormone in plants? Why?
- 32. How is the structure of DNA organised? What is the biological significance of DNA?

Part -IV

Answer all the questions:

 $3 \times 7 = 21$

- 33. a) i)State and prove the law of conservation of linear momentum.
 - ii) If a 5 N and a 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force (Or)
 - b) i) What connection is used in domestic appliances and why?
 - ii) What are the advantages of LED TV over the normal TV?
 - iii) List the merits of LED bulb.
- 34. a) i) Give the salient features of "Modern atomic theory".
 - ii) Calculate the % of each element in calcium carbonate. (Atomic mass: C-12, O-16, Ca -40) (Or)
 - b) i) Metal A belongs to period 3 and group 13. A in red hot condition reacts with steam to form B. A with strong alkali forms C. Find A,B and C with reactions
 - ii) What is rust? Give the equation for formation of rust.
 - iii) State two conditions necessary for rusting of iron.
- 35. a) i) Write the characteristics of insect pollinated flowers.
 - ii) With a neat labelled diagram describe the parts of a typical angiospermic ovule. (Or)
 - b) i) Define stimulus.
 - ii) With a neat labelled diagram explain the structure of a neuron.

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