

ILAHI ORIENTAL ARABIC HIGH SCHOOL – CUMBUM
X – STD – MODEL QUESTION PAPER – I (2019-2020)
SCIENCE - QUARTERLY EXAMINATION

Time Allowed : 15 min + 2 ½ hrs

Maximum Marks : 75

PART – I

Note : i) Answer all the questions.

(12x1=12)

ii) Choose the most suitable answer and write the code with the corresponding answer.

- 1) 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) Decreased by 50%
 - b) Increase by 50%
 - c) Decrease by 25%
 - d) Increase by 300%
- 2) The object placed between F and C while the image formed at the place of
 - a) at F
 - b) at C
 - c) beyond C
 - d) Infinity
- 3) The value of universal gas constant
 - a) $3.81 \text{ mol}^{-1}\text{k}^{-1}$
 - b) $8.03 \text{ mol}^{-1}\text{k}^{-1}$
 - c) $1.38 \text{ mol}^{-1}\text{k}^{-1}$
 - d) $8.31 \text{ mol}^{-1}\text{k}^{-1}$
- 4) Which of the following is a triatomic molecule?
 - a) Helium
 - b) Oxygen
 - c) Sucrose
 - d) Carbon di-oxide
- 5) _____ group contains the members of noble gases
 - a) 17th
 - b) 14th
 - c) 18th
 - d) 16th
- 6) Which one of the following is the example of hydroscopic substances
 - a) NaOH
 - b) H_2SO_4
 - c) KOH
 - d) FeCl_3
- 7) Which is formed during anaerobic respiration ?
 - a) Carbohydrate
 - b) Ethanol
 - c) Acetyl CoA
 - d) Pyruvate
- 8) The normal blood pressure for a healthy man is
 - a) 120mmHg/80mmHg
 - b) 80mmHg/120mmHg
 - c) 110mmHg/70mmHg
 - d) 70mmHg/120mmHg
- 9) Vomiting centre is located in
 - a) medulla oblongata
 - b) stomach
 - c) cerebrum
 - d) hypothalamus
- 10) The hormone which has positive effect on apical dominance is
 - a) Cytokinin
 - b) Auxin
 - c) Gibberellin
 - d) Ethylene

11) Which one of the following hormone stimulates the uterin contractions and provides the force expel the baby form the uterus causing birth

- a) Prolactin b) Thyroxine c) Oxytocin d) Relaxine

12) Okashi fragments are joined together by

- a) Helicase b) DNA Polymerase c) RNA Primer d) DNA Ligase

PART -II

NOTE: Answer Any Seven Question ; (Q NO: 22 Is Compulsory) (7x2 = 14)

13) How does an astronaut float in a space shuttle?

14) Draw a ray diagram to show the image formed by a convex lens when the object is placed

between F and $2F$

15) State Ohm's law

16) a) What is alloys?

b) What are the types of Alloys?

17) a) Write the dental formula of rabbit

b) What is diastema?

18) How are arteries and veins structurally different from one another?

19) Write any three functions of thyroid harmones?

20) a) What is menstrual cycle?

b) What are the phases of menstrual cycle?

21) Write the significance of DNA

22) Calculate % of 'O' in H_2SO_4

PART -III

NOTE: Answer Any Seven Questions; (Q,NO : 32 is compulsory) (7x4 = 28)

23) State and prove the law of conservation of linear momentum.

24) a) An object of height 3cm is placed at 10cm from a concave lens of focal length 15cm . Find the size of the image.

b) Draw a ray diagram to show the image formed by a convex lens when the object is placed 'C'.

- 25) Explain the experiment of measuring the real and apparent expansion of a liquid with a neat diagram.
- 26) a) Explain with suitable examples, how will you classify solutions based on the amount of solute?
b) Calculate the volume of ethanol in 200ml solution of 20% v/v aqueous solution of ethanol.
- 27) a) Explain the structure of mitochondria with its neat labelled diagram.
b) Write any two functions of mitochondria.
- 28) Why are leucocytes classified as granulocytes and agranulocytes? Name each cell and mention its functions.
- 29) Illustrate the structure and functions of brain.
- 30) a) Name the Endocrine glands present in human and other vertebrates.
b) Explain briefly any two Endocrine glands.
- 31) Write the events involved in the sexual reproduction of a flowering plant.
a) Discuss the first event and write the types.
b) Mention the advantages and disadvantages of that events.
- 32) a) Calculate the % relative abundance of B-10 and B-11, if its atomic mass is 10.804 amu.
b) Calculate the number of molecules in 11.2 litre of CO₂ at S.T.P.

PART – IV

Note: 1) Answer all the questions.

(3x7=21)

2) Each questions carrier seven marks.

3) Draw diagram whenever necessary.

33. a) (i) Light rays travel from vacuum into a glass whose refractive Index is 1.5. If the angle of incidence is 30°, calculate the angle of refraction inside the glass.
ii) A beam of light passing through a diverging lens of focal length 0.3m appear to be focussed at a distance 0.2m behind the lens. Find the position of the object.
iii) What are the defects of human eyes? How it can be rectified?

(OR)

b) A piece of wire having a resistance R is cut into five equal parts.

- (i) How will the resistance of each part of the wire change compared with the original resistance?
- (ii) If the five parts of the wire are placed in parallel, how will resistance of the combination change?
- (iii) What will be ratio of the effective resistance in series connection to that of the parallel connection?

34. a) (i) Derive the relationship between molecular mass and vapour density.

(ii) How many grams are there in the following?

a) 4 moles of chlorine molecules, Cl_2

b) 6 moles of sulphur molecules, S_8

(OR)

b) (i) 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. H_2SO_4 forms C and D along with water. D is a gaseous compound. Find A, B, C and D.

(ii) 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, C, with reactions.

35. a) (i) How is the circulatory system designed in leech to compensate the heart structure?

ii) List out the parasitic adaptations in leech.

(OR)

b) (i) Explain with example the inheritance of dihybrid cross. How is it differ from monohybrid cross?

(ii) Devi gave birth to a male baby. Her family members say that she can give birth to only male babies because of her family story. If the statements given her family members true. Justify your answer.

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