

10th Class Exam 2018 SAMPLE PAPER -1

Time Allowed: 3 hours

Subject: Science

Maximum marks: 80

General Instructions

- (1) Question numbers 1 and 2 in Section-A are one mark question. They are to be answered in one word or in one sentence.
- (2) Question numbers 3 to 5 in Section- A are two marks questions. These are to be answered in 30 words each.
- (3) Question numbers 6 to 15 in Section-A are three marks questions. These are to be answered in about 50 words each.
- (4) Question numbers 16 to 21 in Section-A are 5 marks questions. These are to be answered in 70 words each.
- (5) Question numbers 22 to 27 in Section- B are based on practical skills. Each question is a two marks question. These are to be answered in brief.

Section-A

One mark question

- 1 When we breathe out, why does the air passage not collapse ?
- 2 When a round seeded pea plant is crossed with a wrinkle seeded pea plant, What type of plant we get in F1 generation ?

Two marks question

- 3 Name the gland and the hormone secreted by the gland, which are associated with the following problems.
(i) a girl has grown extremely tall. (ii) a woman has a swollen neck.
- 4 To protect the food plants from insects, an insecticide was sprayed in small amounts but it was detected in high concentration in human beings. How did it happen?
- 5 Write the structural formula of the acid and the alcohol from which Ester might be prepared. Name the process of its formation.

Three marks question

- 6 When a copper wire is left in silver nitrate solution, it is observed that the solution turns bluish green.
(a) Explain the observation .
(b) Write the balanced chemical equation to represent the change taking place.
 - 7 State reason for the following :
(i) A tarnished copper vessel begins to shine again when rubbed with lemon.
(ii) all alkalies are bases but all bases are not alkalies
(iii) use of a mild base like baking soda on the honey - bee stung area gives relief.
 - 8 (a) State two functions of bile juice.
(b) Differentiate between the functions of enzymes pepsin and trypsin.
- OR,
- Explain the mechanism of reflex action.
- 9 With the help of a diagram of experimental set up describe an activity to show that the force acting on a current carrying conductor placed in a magnetic field increases with increase in field strength.
- OR,
- Differentiate between energy obtained by burning fossil fuels and that obtained as solar energy.
- 10 Draw a diagram of human excretory system and label kidneys, ureters on it.

- 11 An element of group 15 has atomic number 15. Write the number of shells in its configuration. Write its configuration and find its Valency. Examine if this element will have metallic properties or not.
- OR, An element has same number of electrons in 1st and 4th shell as well as in 2nd and 3rd shell.
- (a) Write electronic configuration of the element. (b) Identify the element.
(c) Mention the valency of the element.
- 12 Why does Planaria reproduce by regeneration? Explain the process.
- OR, How does sexual reproduction leads to similarities as well as variations?
- 13 Compare the role of the following parts based on their functions.
(a) Pollen grain and Sperm (b) Ovule and Egg (c) Pollen tube and Fallopian tube
- 14 (a) Name the compounds CH_3COOH and identify its functional group. (b) Give a chemical test to identify this compound. (c) Name the gas evolved when this compound acts on solid carbonate. How would you identify this gas?
- 15 Draw the ray diagram to show reflected ray by a Convex mirror when the incident ray is :
- (a) parallel to the principle axis to the mirror (b) Incident towards Centre of curvature of Convex mirror .
(c) Incident at an angle $<i$ at the pole of the Convex mirror.

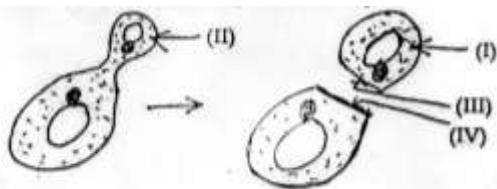
Five marks question

- 16 (a) Draw magnetic field lines of a bar magnet. "Two magnetic field lines never intersect each other". Why ?
(b) An electric oven of 1.5 kW is operated in a domestic circuit (220 V) that has a current rating of 5 A. What result do you expect in this case ? Explain.
- 17 In the formation of a compound XY_2 , atom X denotes one electron to each Y atom. Show the electron dot structure of X and Y and the formation of XY_2 what is the nature of bond in XY_2 ?
Write any three properties of XY_2 . The electronic configurations of three elements X and Y are as follows : $x - 2, 8, 2$ and $y - 2, 7$
- 18 (a) Name one organ each where growth hormone is synthesized in man and plant.
(b) List the sequence of events that occur when a plant is exposed to unidirectional light, leading to bending of a growing shoot. Also name the hormone and the type of movement.
- 19 (a) "The refractive index of rock salt is 1.54". What is meant by this statement?
(b) Draw a ray diagram to show that the incident ray of light is parallel to emergent ray when light falls obliquely on a side of a rectangular glass slab
(c) The refractive index of diamond is 2.47 and that of glass is 1.51. How much faster does light travel in glass than in diamond ?
- 20 (i) Calculate the distance at which an object should be placed in front of a convex lens of focal length 10 cm to obtain a virtual image of double its size.
(ii) Explain Power of Accommodation. Explain in brief the near and the far point of an eye and give their values
- 21 Differentiate between the following :
- | | |
|--|---|
| (a) Pollen tube and Style | (b) Fission in Amoeba and Plasmodium |
| (c) Fragmentation and Regeneration | (d) Bud of Hydra and bud of Bryophyllum |
| (e) Vegetative propagation and Spore formation | |

Section- B (Two marks question)

- 22 A student prepares aqueous solutions of the following salts : Copper sulphate, ferrous sulphate, Sodium sulphate, Barium chloride : Write the colour of each solution thus formed.
- 23 To study the dependence of current (I) on the potential difference (V) a student recorded his observation in tabular form. Based on the observations he obtained a V-I graph which was a straight line passing through the origin. What does this straight line indicate ?
- 24 Write correct sequence of four steps of method for the preparation of temporary mount of a stained leaf peel.
- 25 Complete the following statements regarding the study of properties of acetic acid :
- (a) Odour of acetic acid resembles with -----
- (b) On shaking a mixture of 5 ml acetic acid and 5 ml water in a test tube, it was observed that the resulting solution appears -----
- (c) On adding a few drops of acetic acid to solid sodium hydrogen carbonate it was observed that -----
- (d) When a drop of acetic acid was put on red litmus paper, the red litmus paper -----
- 26 Is parental identity lost in binary fission of amoeba ? Justify your answer with proper reason.

OR, Label the diagram correctly



- 27 A student performed the experiment to find the position of images for the different positions of an object. If centre of curvature of convex lens is 20 cm, then match the following on the basis of above information :
- | Position of Image | Position of an object |
|-----------------------------------|-------------------------------------|
| (a) At infinity | (i) Object is 20 cm away from lens. |
| (b) Beyond C | (ii) At infinity |
| (c) Image is 20 cm away from lens | (iii) At 10 cm from lens |
| (d) Image is 10 cm away from lens | (iv) Between F and C |