

MT

2017 ____ 1100

Seat No.

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MT - SCIENCE & TECHNOLOGY - II (72) - SEMI PRELIM - I : PAPER - 1

Time : 2 Hours

(Pages 3)

Max. Marks : 40

Note :

- (i) All questions are compulsory.
- (ii) All questions carry equal marks.
- (iii) Draw neat and labelled diagrams wherever necessary.

Q.1. (A) Fill in the blanks : 3

- (1) Hydra uses regenerative cells for reproduction in the process of
- (2) If one of the metal is mercury, then the alloy is known as
- (3) Below 290K acetic acid solidifies to an ice like mass called

Q.1. (B) Match the items in column 'A' with those of column 'B' : 2

| Column 'A' | Column 'B' |
|--------------------------|----------------------------|
| (1) Peripatus | (a) Megasporophyll |
| (2) Duck billed platypus | (b) Absence of chlorophyll |
| (3) Vermiform appendix | (c) Like mammals |
| (4) Indian pipe plant | (d) Digestion of cellulose |
| | (e) Segmental nephridia |

Q.2. Rewrite the following statements by selecting the correct 5 alternative:

- (1) To observe Amoeba and Paramecium under microscope stain is used.
 - (a) Methylene blue
 - (b) Iodine
 - (c) Safranin
 - (d) Eosin

- (2) Resemblance and differences is the result of
(a) heredity (b) fertilization
(c) evolution (d) selection
- (3) Which of the following solutions in water is green in colour ?
(a) CuSO_4 (b) FeSO_4
(c) ZnSO_4 (d) $\text{Al}_2(\text{SO}_4)_3$
- (4) Some acetic acid is treated with solid NaHCO_3 . The resulting solution will be
(a) colourless (b) blue
(c) green (d) turbid
- (5) Acetic acid
(a) turns red litmus blue (b) is pale yellow in colour
(c) is red in colour (d) is insoluble in water

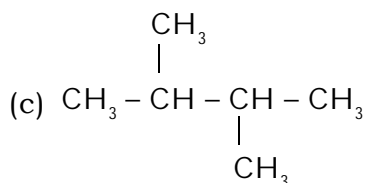
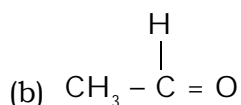
Q.3. Answer the following in short : (Any 5)**10**

- (1) Give scientific reason :
In the absence of honey bees, the yield of sunflower goes down tremendously.
- (2) Give scientific reason :
Ethylene is an unsaturated hydrocarbon.
- (3) Draw neat and labelled diagram of Longitudinal section of flower.
- (4) Distinguish between : Metals and Non-metals with respect to Chemical properties.
- (5) What are fossils? How are they formed?
- (6) Explain the following chemical reaction with the help of balanced equation :
Aluminium oxide dissolves in aqueous sodium hydroxide.
- (7) Define the following :
(a) Ores
(b) Functional group

Q.4. Answer the following in brief : (Any 5)**15**

- (1) How is sex determined in human beings?
- (2) Write short note on Homologous series.

- (3) Write short note on Multiple fission.
- (4) Explain extraction of metals with high reactivity.
- (5) Sudha dipped a copper coin in a solution of silver nitrate. After some time she saw the silver shine on the coin. Why? Give the balanced chemical equation for the same.
- (6) Distinguish between Pollination and Fertilization.
- (7) Give the IUPAC name of the following compounds :



Q.5. Answer in detail: (Any 1)

5

- (1) With the help of a diagram (Punnett square) show a Mendelian experiment where a tall pea plant bearing red flowers is crossed with a short pea plant bearing white flowers. Write both the phenotypic and genotypic ratio for F_2 generation.
- (2) Explain the formation of an ionic compound between metal and a non-metal by transfer of electrons with Mg as the metal and Cl as a non-metal to illustrate the answer.

Best Of Luck 🍀