

MT

2017 ___ ___ 1100

Seat No.

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MT - SCIENCE & TECHNOLOGY - II (72) - SEMI PRELIM - I : PAPER - 2

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) is necessary to maintain the number of individuals of a species.
- (2) Both the parents contribute equal amount of material to the off-spring.
- (3) is degradation of materials due to reaction with its environment.

Q.1. (B) Write the correlated terms : 2

- (1) Planaria : regeneration :: Rhizopus
- (2) Na : Na₂O :: Al :

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

- (1) In Hydra the type of reproduction is
 - (a) Binary fission
 - (b) Budding
 - (c) Multiple fission
 - (d) None of these

- (2) The quantity of hormones produced by the plants depends upon the efficiency of the concerned
 - (a) chromosome
 - (b) enzyme
 - (c) gene
 - (d) DNA

- (3) Which of the following options is correct according to the reactivity of metals ?
- (a) $Zn < Al < Fe < Cu$ (b) $Zn > Al > Fe > Cu$
(c) $Cu < Fe < Zn < Al$ (d) $Cu < Fe < Al < Zn$
- (4) Which gas is liberated when acetic acid reacts with sodium metal ?
- (a) H_2 (b) O_2
(c) CO_2 (d) NH_3
- (5) A solution of $Al_2(SO_4)_3$ in water is
- (a) blue (b) pink
(c) green (d) colourless

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

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- (1) Give scientific reason :
Siberian cranes migrate to Bharatpur during winter.
- (2) Give scientific reason :
Calcium floats over water during the reaction with water.
- (3) Draw neat and labelled diagram of Spore formation in Mucor.
- (4) Distinguish between Diamond and Graphite.
- (5) What are analogous organs? Give example.
- (6) Explain the following chemical reaction with the help of balanced equation :
Zinc sulphide is heated in excess of air.
- (7) Define the following :
(a) Minerals
(b) Homologous series

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

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- (1) Write short note on Connecting links.
- (2) Write short note on Functional groups.
- (3) Explain disadvantages of large family size.
- (4) Describe the Bayer's process for concentration of bauxite.
- (5) What is aqua regia?
- (6) Write short note on Lamarckism (Lamarckian inheritance).

(7) Give the IUPAC name of the following compounds :

(a) HCOOH

(b) CH₃ – CH₂OH

(c)
$$\begin{array}{c} \text{H}_2\text{C} - \text{CH}_2 \\ | \quad | \\ \text{Br} \quad \text{Br} \end{array}$$

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

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(1) Describe sexual reproduction in plants.

(2) Explain the electrolytic reduction of alumina with neat labelled diagram.

Best Of Luck 🍀