MT

2017 ___ ___ 1100 **Seat No.** | | | | | | | |

MT - SCIENCE & TECHNOLOGY - II (72) - SEMI PRELIM - I : PAPER - 3

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) During unfavourable conditions ..... type of fission is seen in Amoeba.

(2) A fragment of DNA that provides complete information about one protein is known as the ..... for that protein.

(3) The impurities present in an ore are called as ..... .

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

Column 'A'	Column 'B'
(1) Benzene	(a) CH_3COOH
(2) Sodium ethoxide	(b) C_6H_{12}
(3) Acetic acid	(c) C_6H_6
(4) Cyclohexane	(d) CH_3CH_2ONa

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

(1) Ramesh observed a slide of Amoeba with elongated nuclei. It would represent ..... .

(a) Binary fission (b) Multiple fission

(c) Budding (d) None of these

(2) A systematic study of fossils and its occurence revealed that the deepest layers were found to have fossils of ..... .
(a) vertebrates (b) invertebrates
(c) amphibians (d) plants

(3) A solution of $Al_2(SO_4)_3$ in water is not clear. It is due to ..... .
(a) impurities present in water.
(b) hydrolysis of $Al_2(SO_4)_3$ in water.
(c) impurities present in $Al_2(SO_4)_3$.
(d) none of these

(4) 2 ml of ethanoic acid was taken in each of test tubes A, B, C and 2 ml, 4 ml, 6 ml of water was added respectively to them. A clear solution is obtained in ..... .
(a) test tube A (b) test tube B
(c) test tube C (d) all the test tubes

(5) When sodium bicarbonate solution is added to dilute acetic acid, it is observed that..... .
(a) a gas is evolved
(b) a solid settles at the bottom
(c) the mixture becomes warm
(d) the colour of the mixture becomes yellow

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

(1) Give scientific reason :
Regeneration is not the same as reproduction.
(2) Give scientific reason :
Methane is called marsh gas.
(3) Draw neat and labelled diagram of Human female reproductive system.
(4) Distinguish between Roasting and Calcination.
(5) What are homologous organs? Give example.
(6) Explain the following chemical reaction with the help of balanced equation :
Iron nail is placed in copper sulphate solution.

(7) Define the following:
(a) Galvanising
(b) Allotropy

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

(1) Which were the seven pairs of contrasting traits in a pea plant that were studied by Mendel?
(2) What do you understand by substitution reaction ?
(3) Write the functions of the following organs in reproduction:
(a) Ovaries
(b) Seminal vesicles and prostate gland
(c) Uterus
(4) Explain the extraction of copper.
(5) Metal A has electronic configuration of (2, 8, 1) and metal B has (2, 8, 8, 2). Which is more reactive? Identify these metals and give their reactions with dil. HCl.
(6) Distinguish between Asexual reproduction and Sexual reproduction.
(7) Give the IUPAC name of the following compounds :
(a) $CH_3 - CH = CH - CH_3$ (b) CH_3CH_2COOH

(c) $CH_3 - \overset{\overset{O}{\|}}{C} - CH_3$

Q.5. Anwser in detail: (Any 1) **5**

(1) What do you mean by DNA? What is the peculiarity of its structure and name the scientist who put forward the most popular model of DNA?

(2) Explain the formation of sodium chloride with neat labelled diagram.

Best Of Luck 👍