

MT

2017 ____ 1100

Seat No.

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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) $\text{CH}_3\text{CH}_2\text{ONa}$

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

- (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 occurrence revealed that the deepest layers were found to have fossils of
(a) vertebrates (b) invertebrates
(c) amphibians (d) plants
- (3) A solution of $\text{Al}_2(\text{SO}_4)_3$ in water is not clear. It is due to
(a) impurities present in water.
(b) hydrolysis of $\text{Al}_2(\text{SO}_4)_3$ in water.
(c) impurities present in $\text{Al}_2(\text{SO}_4)_3$.
(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)

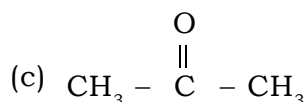
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- (1) Give scientific reason :
Regeneration is not the same as reproduction.
- (2) Give scientific reason :
Methane is called marsh gas.
- (3) Draw neat and labelled diagram of Human female reproductive system.
- (4) Distinguish between Roasting and 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) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$
 - (b) $\text{CH}_3\text{CH}_2\text{COOH}$



Q.5. Answer 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 🍀