

GMET-2015

## SAMPLE QUESTIONS

## BOTANY

1. In which of the following plants, pollen is released before the stigma becomes receptive in the same flower?

- (1) Solanum (2) Allium (3) Colchicum (4) Datura

2. A cross between two tall garden pea plants produced all tall plants. The possible genotypes of the parents are

- (I) TT, TT (II) TT, Tt (III) Tt, tt (IV) Tt, tT

The correct answer is :

- (1) II, III (2) III, IV (3) I, IV (4) I, II

3. Match the following lists :

## List - I

- (A) Salvinia  
(B) Lichens  
(C) Rhizophora  
(D) Utricularia

## List - II

- (I) Submerged, suspended hydrophyte  
(II) Amphibious plant  
(III) Heterosporous plant  
(IV) Soil formation  
(V) Halophyte

The correct answer is:

- |     | (A) | (B) | (C) | (D) |
|-----|-----|-----|-----|-----|
| (1) | III | IV  | V   | I   |
| (2) | III | II  | V   | I   |
| (3) | V   | III | IV  | I   |
| (4) | V   | II  | I   | III |

## ZOOLOGY

1. Male heterogametic sex, XX XO type of sex determination is found in

- (1) Drosophila (2) Butterflies (3) Moths (4) Grasshoppers

2. Match the following with reference in adaptations:

## List - I

- (A) Sea gulls  
(B) Kangaroo rat  
(C) Turtles  
(D) Salmon

## List - II

- (I) Chloride secreting glands  
(II) Water cells in rumen  
(III) Salt excreting glands  
(IV) Oxidation of fats to generate water  
(V) Anadromous migration

The correct match is:

- |     | (A) | (B) | (C) | (D) |
|-----|-----|-----|-----|-----|
| (1) | III | IV  | I   | V   |
| (2) | II  | IV  | III | I   |
| (3) | III | II  | I   | V   |
| (4) | II  | III | IV  | I   |

3. Erythropoietin is a hormone produced from

- (1) Kidney (2) Thymus (3) Pituitary (4) Heart

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SAMPLE QUESTIONS

## PHYSICS

- A body is projected horizontally from the top of a tower with a velocity of 10m/s. If it hits the ground at an angle of  $45^\circ$ , the vertical component of velocity when it hits the ground in m/s  
 (1) 10 (2)  $10\sqrt{2}$  (3)  $5\sqrt{2}$  (4) 5
- Workdone in carrying an electric charge  $Q_1$  once round a circle of radius R with a charge  $Q_2$  at the centre of the circle is  
 (1) 0 (2)  $\frac{Q_1 Q_2}{4\pi\epsilon_0 R}$  (3)  $\infty$  (4)  $\frac{Q_1 Q_2}{4\pi\epsilon_0 R^2}$
- A plane electromagnetic wave travels in free space. Then the ratio of the magnitudes of electric and magnetic fields at a point is equal to  
 (1) Energy of electromagnetic wave  
 (2) Inverse of the velocity of the electromagnetic wave  
 (3) Inverse of the energy of the electromagnetic wave  
 (4) Velocity of electromagnetic wave

## CHEMISTRY

- Among the following inert gas elements, the element that shows highest chemical reactivity is  
 (1) Xe (2) Ne (3) Ar (4) He
- Identify the compounds from the following which form primary amines under suitable reduction conditions.  
 (1)  $C_2H_5NC$  (2)  $C_2H_6$  (3)  $C_2H_5CONH_2$  (4)  $C_6H_5NO_2$   
 The correct answer is :  
 (1) 2,3,4 (2) 1,4 (3) 3,4 (4) 1,3,4
- Observe the following reaction and choose the correct answer  
 $2NO_2(g) + 2OH^-(aq) \rightarrow NO_2^-(aq) + NO_3^-(aq) + H_2O(l)$   
 (1)  $NO_2(g)$  is reduced to  $NO_3^-(aq)$  and oxidized to  $NO_2^-(aq)$   
 (2)  $OH^-$  is oxidized to  $H_2O$   
 (3)  $OH^-$  is reduced to  $H_2O$   
 (4)  $NO_2(g)$  is reduced to  $NO_2^-(aq)$  and oxidized to  $NO_3^-(aq)$ .