

- Answer five questions selecting two from each Group, in which Q.No. 1 is compulsory.
1. Select the correct answer of the following :
- (a) The term 'Ecosystem' was proposed by :  
 (i) Tansley (ii) Lindemann (iii) Elton (iv) Odum
- (b) Producers in a food-chain are :  
 (i) Autotrophs (ii) Saprotrophs (iii) Heterotrophs (iv) All of the above
- (c) '10%' Law has been proposed by :  
 (i) Lindemann (ii) Elton (iii) Hutchinson (iv) Odum
- (d) According to modern synthetic theory, the unit of evolution is :  
 (i) Species (ii) Population (iii) Sample (iv) All of the above
- (e) 'Chemical origin of life' was proposed by :  
 (i) Oparin (ii) Khorana (iii) Dobzhansky (iv) Muller
- (f) 'Concept of Biological Species' was proposed by :  
 (i) Dobzhansky (ii) Mayr (iii) Ford (iv) Darwin
- (g) A Mendelian population-shows :  
 (i) Interbreeding (ii) In-breeding  
 (iii) Out-breeding (iv) All of the above
- (h) Which is the first Ape-man ?  
 (i) Australopithecus (ii) Pithecanthropus (iii) Cro-magnon (iv) Homo sapiens
- (i) Homing behaviour is an example of :  
 (i) Instinct behaviour (ii) Learned behaviour  
 (iii) Motivation (iv) Acquired behaviour
- (j) A natural cooling effect is shown by :  
 (i) Sleep (ii) Dream (iii) Both (i) and (ii) (iv) Meditation
- (k) 'Waggle Dance' is related to :  
 (i) Ant (ii) Wasp (iii) Bee (iv) Butterfly
- (l) Pheromone is an example of :  
 (i) Ectohormone (ii) Neurohormone (iii) Pituitary Hormone (iv) All of these
- (m) 'Hardy - Weinberg Law' is a theorem of :  
 (i) Population Genetics (ii) Eugenics  
 (iii) Biochemical Genetics (iv) All of the above
- (n) Which is called the 'Dawn Horse' ?  
 (i) Eohippus (ii) Equus (iii) Plesippus (iv) Miohippus
- (o) Which is called the 'Sewall-Wright effect' ?  
 (i) Genetic Drift (ii) Recombination (iii) Natural selection (iv) All of these

**Group-A**

- Define energy flow. Explain the trophic model of energy flow in an ecosystem.
  - Mention the sources and harmful effects of water pollution.
  - What is an ecological pyramid ? Describe the types of ecological pyramids giving suitable example.
  - Define Pollutants. Describe the modes of action of pollutants in human beings. Point out differences between point and non-point sources of pollutants giving examples.
- Or, Write notes on any three of the following : (a) Food Chain (b) Green House Effect (c) Yoga and their Effects (d) Genotoxicology (e) Applications of Toxicology

**Group - B**

- Define 'Biological Species' Concept. Discuss the modes of speciation.

7. Define Hardy-Weinberg Law. Explain the basic features of the Law and deduce the mathematical expression for the Law. LNMUonline.com
8. Describe the phylogeny of horse or man.
9. Write notes on any three of the following : (a) Bee-dance (b) Territoriality (c) Big-Bang Theory (d) Natural Selection (e) Ploidy (f) Variations

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