

## 5. Origin and Evolution of Life

- 1) Which one of these is a wrong match?
  - (a) Hugo de Vries- mutation theory
  - (b) Darwin- origin of species
  - (c) August Weismann- germplasm theory
  - (d) R. Fischer- Theory of natural selection.
- 2) Which group of organism forms a link between Reptiles and Mammals
  - (a) Ichthyosaurs    (b) Archosaurs
  - (c) Diapsida        (d) platypus
- 3) Lungfishes are considered as link between \_\_\_\_\_
  - (a) Reptiles and Birds
  - (b) Birds and Mammals
  - (c) Fishes and Amphibians
  - (d) None of the above
- 4) The organism which forms a connecting link between Annelids and Arthropods is \_\_\_\_\_
  - (a) Ichthyostegia    (b) Peripatus
  - (c) Balanoglossus   (d) Mollusca
- 5) Balanoglossus forms a connecting link between \_\_\_\_\_
  - (a) Annelida and Arthropoda
  - (b) Reptiles and Mammals
  - (c) Chordates and Nonchordates
  - (d) Annelida and mammals
- 6) Identify the wrong statement regarding evolution.
  - (a) Offspring do not resemble to their parents.
  - (b) Mutations are random and nondirectional.
  - (c) Adaptive radiations lead to divergent evolution
  - (d) Mutations are non- random and directional.
- 7) Gene frequency in a population remain constant due to –
  - (a) Mutation            (b) Migration
  - (c) Random mating    (d) Non- random mating
- 8) Archaeopteryx is known as missing link because it is a fossil and share characters of both-
  - (a) Fishes and Amphibians
  - (b) Annelida and Arthropoda.
  - (c) Birds and reptiles
  - (d) Chordates and Nonchordates
- 9) Darwin could not explain
  - (a) The arrival of the fittest
  - (b) Origin and Inheritance of Variations.
  - (c) The Vestigial Organs and Extinction of Species.
  - (d) natural selection
- 10) The term Genetic Variation are the change in
  - (a) Genes                (b) Mutation
  - (c) Gene Pool        (d) gene flow

- 11)** Darwinism is NOT based on \_\_\_\_\_  
(a) Overproduction  
(b) Struggle for Existence  
(c) Natural selection  
(d) mutation theory
- 12)** Genetic variations are caused due to \_\_\_\_\_  
(a) Genetic Mutation  
(b) Genetic Recommendations  
(c) Gene Flow  
(d) inversion
- 13)** Darwin gave the \_\_\_\_\_  
(a) Theory of origin of species by Natural Selection  
(b) Origin of acquired characters  
(c) Mutation theory  
(d) Modern synthetic theory of evolution
- 14)** Lamarck is associated with  
(a) Theory of spontaneous generation  
(b) Theory of origin of acquired characters  
(c) Theory of Abiogenesis  
(d) Germplasm theory
- 15)** Theory of special creation is based on fact  
(a) That life descended on the earth from other planets in the form of microorganisms  
(b) All living organism are created by supernatural power.  
(c) Life originated from non-living material spontaneously  
(d) Natural selection
- 16)** According to Charles Darwin the term Evolution means  
(a) The act of unrolling or unfolding of nature.  
(b) It brings changes from one form to another.  
(c) Changes result in the descendants becoming different from the ancestors.  
(d) descent with modification.
- 17)** Seymouria forms a connecting link between  
(a) Annelids and Amphibians  
(b) Amphibians and Reptiles  
(c) Reptiles and Birds  
(d) Birds and Mammals
- 18)** Fossils are NOT found in  
(a) Sedimentary Rocks    (b) Ice  
(c) Peat Bogs                (d) River
- 19)** Paleontology refers to the study of  
(a) Ancient Life    (b) Fossils  
(c) Both a and b    (d) Genes
- 20)** Archaeopteryx forms the link between \_\_\_\_\_  
(a) Annelids and Amphibians

- (b) Fish and Amphibians
- (c) Reptiles and Birds
- (d) Fish and birds

**21)** Genetic drift is caused due to

- (a) Alternation in allele frequency
- (b) Hybrid sterility
- (c) Mortality
- (d) Mutation

**22)** The Book ' The Origin of Species by is Natural Selection' was published by

- (a) Lamarck
- (b) Charles Darwin
- (c) C. Lyell (Geologist)
- (d) August Weissman

**23)** Crossing over refers to \_\_\_\_\_

- (a) Exchange of genetic material between sister chromatids of homologous chromosomes
- (b) Exchange of genetic material between non-sister chromatids.
- (c) Transfer of a part of chromosome
- (d) Movement of genes

**24)** The theory of origin of acquired characters was given by the scientist,

- (a) Darwin
- (b) Lamarck
- (c) August Weissman
- (d) None of the above

**25)** Chromosomal aberrations are caused due to \_\_\_\_\_

- (a) genetic drift
- (b) migration
- (c) Mutation
- (d) Translocation of chromosomes

**26)** Which of the following statement is considered under theory of Germplasm?

- (a) one organism has given rise to another
- (b) variations produced in somatic cells are not inherited.
- (c) Pre existing variation in the population.
- (d) Divergent evolution.

**27)** Choose the correct statement from the following options

- (a) mutation is random and directional
- (b) Darwinian variation is small and detection less
- (c) Nucleotide joined to form nucleic acid
- (d) Photo proteins which latter formed proteins.

**28)** Protoproteins are polymerisation of \_\_\_\_\_.

- (a) amino acids
- (b) nucleic acids
- (c) enzymes
- (d) fatty acids

**29)** Missing link is \_\_\_\_\_

- (a) An intermediate organ between two organs
- (b) Hypothetical extinct creature halfway in the evolution
- (c) Both a and b
- (d) Intermediate between two characteristics

- 30) In Hardy - Weinberg equation, the frequency of homozygous recessive individual is represented by :-  
(a)  $p^2$  (b)  $pq$  (c)  $q^2$  (d)  $2pq$
- 31) Select the analogous organs-  
(a) Forelimbs of whale and bat  
(b) Flippers of dolphins and penguin  
(c) Thorn and tendrils of Bougainvillea and Cucurbita.  
(d) Vertebrates hearts or brains
- 32) Which of the following characteristic is not shown by the ape?  
(a) Prognathous face  
(b) Tail is present  
(c) Chin is absent  
(d) Forelimbs are longer than hind limb
- 33) Who proposed that the first form of life could have come from pre-existing non-living organic molecules?  
(a) Alfred Wallace (b) Oparin and Haldane  
(c) Charles Darwin (d) Louis Pasteur
- 34) The sequence of origin of life may be-  
(a) Organic materials- inorganic materials – Eobiont- colloidal aggregates- cell.  
(b) Inorganic materials – organic materials – colloidal aggregates –Eobiont- cell.  
(c) Organic materials- inorganic materials – colloidal aggregates –cell  
(d) Inorganic materials- organic materials – Eobiont- colloidal aggregates – cell
- 35) ..... can be considered as connecting link between ape and man.  
(a) Australopithecus (b) Homo habilis  
(c) Homo erectus (d) Neanderthal man.
- 36) August Weisman is related to  
(a) Mutation theory  
(b) Germplasm Theory  
(c) Theory of acquired characters  
(d) Theory of Natural Selection
- 37) Translocation is the transfer (transposition) of a part of chromosome to a \_\_\_\_  
(a) Sister chromatids  
(b) Homologous Chromosome  
(c) Non-Homologous Chromosome  
(d) Non-Sister Chromatids of Homologous Chromosomes
- 38) The Cranial capacity of Nanderthal man was  
(a) 600 cc (b) 940 cc  
(c) 1400 cc (d) 1600 cc
- 39) \_\_\_\_ isolation occurs due to change in genetic material, gene pool and structure of genital organs.  
(a) geographical isolation  
(b) reproductive isolation  
(c) mechanical isolation  
(d) ethological isolation

**40)** Coacervates are colloidal aggregations of \_\_\_\_

- (a) Proteins and Fats
- (b) Hydrophobic Proteins and Lipids
- (c) Hydrophilic Complexes
- (d) Proteins and lactic acid

**----- All the Best -----**

## **5. Origin and Evolution of Life Keys**

- 1) Ans. (d)**
- 2) Ans. (d)**
- 3) Ans. (c)**
- 4) Ans. (b)**
- 5) Ans. (c)**
- 6) Ans. (a)**
- 7) Ans. (c)**
- 8) Ans. (c)**
- 9) Ans. (a)**
- 10) Ans. (a)**
- 11) Ans. (d)**
- 12) Ans. (b)**
- 13) Ans. (a)**
- 14) Ans. (b)**
- 15) Ans. (b)**
- 16) Ans. (d)**
- 17) Ans. (b)**
- 18) Ans. (d)**
- 19) Ans. (b)**
- 20) Ans. (c)**
- 21) Ans. (a)**
- 22) Ans. (b)**
- 23) Ans. (b)**
- 24) Ans. (b)**
- 25) Ans. (d)**
- 26) Ans. (b)**

**27)** Ans. (c)

**28)** Ans. (a)

**29)** Ans. (d)

**30)** Ans. (c)

**31)** Ans. (b)

**32)** Ans. (b)

**33)** Ans. (d)

**34)** Ans. (b)

**35)** Ans. (a)

**36)** Ans. (b)

**37)** Ans. (c)

**38)** Ans. (c)

**39)** Ans. (b)

**40)** Ans. (b)