EXERCISE

1. Primitive atmosphere was made up of the mixture of :
(1) Oxygen, ammonia, methane, water
(2) Hydrogen, ammonia, methane, oxygen
(3) Hydrogen, steam, methane, ammonia
(4) Oxygen, methane, water, nickle

2. Which compounds were formed in the direction of the origin of life :
(1) Urea, nucleic-acid (2) Urea, amino-acid
(3) Proteins, nucleic-acid (4) Protein, amino-acid

3. What is most important for origin of life :
(1) Carbon (2) Oxygen
(3) Water (4) Nitrogen

4. Pasteur succeeded in disproving the theory of spontaneous generation because :
(1) The laboratory was clean
(2) He pulled out the neck of flask into a tube
(3) He was lucky
(4) Yeast used in flask were dead

5. Oxygen in atmosphere has been formed by :
(1) Evaporation of water
(2) Photosynthesis of blue green algae
(3) Metabolism of microorganisms
(4) Decaying organisms

6. Who called larger colloidal particles of primitive sea as coacervates :
(1) Fox (2) Oparin
(3) Empedocles (4) Haldane

7. Who called water of primitive sea as pre biotic soup :
(1) Haldane (2) Oparin
(3) Fox (4) Huxley

8. Oparin's theory is based on :
(1) Artificial synthesis
(2) Spontaneous generation
(3) God's will
(4) All

9. Which biologist gave most logical biochemical theory of origin of life ?
(1) Urey (2) Oparin
(3) Stanley Miller (4) Haeckel

10. During the course of origin of life what was the sequence of substances which appeared on earth :
(1) Water, oxygen, nucleic acids, enzymes
(2) Amino acids, ammonia, phosphates, nucleic acids
(3) Glucose, amino acids, nucleic acids, proteins
(4) Ammonia, Amino acids, proteins, nucleic acids

11. It is believed that the first organisms which inhabitated earth's surface were :
(1) Autotrophs
(2) Mixotrophs
(3) Heterotrophs
(4) Chromatotrophs

12. Who did an experiment to prove that "The organic compounds were the basis of life"?
(1) Darwin
(2) Stanley Miller and Harold C.Urey
(3) Melvin
(4) Fox

13. Due to discovery of which of the following in 1980, the evolution was termed as RNA world :
(1) m - RNA , t - RNA, r - RNA synthesise proteins
(2) In some virus RNA is genetic material
(3) RNA has enzymatic property
(4) RNA is not found in all cells

14. Which of the following is favorite idea of astronomers
(1) Special creaction theory
(2) Cosmic panspermia
(3) Biogensis
(4) Abiogensis

15. During chemical evolution, key biological compounds were synthesised :-
(1) in the atomosphere
(2) along the ocean shore
(3) in the ocean
(4) none of the above

16. Big bang theory was proposed by :
(1) Kant (2) Miller
(3) Lemaitre (4) Darwin

17. Miller and Urey performed an experiment to prove the origin of life. They took gases NH_3 and H_2 along with :
(1) N_2 and H_2O (2) H_2O and CH_4
(3) CH_4 and N_2 (4) CO_2 and NH_3

18. Abiogenesis is the :
(1) origin of life from non-living material
(2) origin of life from living organism
(3) origin of viruses and microbes
(4) none

19. Which is vestigial organ in man :
(1) Pinna (2) Pinna muscles
(3) Ileum (4) Teeth

20. Which of the following set in man includes vestigial organs :
(1) Coccyx, vermiform appendix and ear muscles
(2) Body hair, atlas vertebra and ear muscles
(3) Coccyx, wisdom tooth and patella
(4) Body hair, cochlea, vermiform appendix and tongue.

21. Peripatus is connecting link between :
(1) Mollusca and Arthropoda
(2) Flat worms and annelida
(3) Annelida and Arthropoda
(4) Reptilia and Mammalia

22. According to Haeckel's biogenetic law :
(1) Development of individual metazon shown embryonic characters of ancestors.
(2) Ontogeny repeats phylogeny
(3) Germplasm is immortal
(4) Every organisms is produced by its parents

23. Which of the following set has homologous organs :
(1) Hands of man, monkey and kangaroo and trunk of elephant
(2) Wings of insects, birds and bats
(3) Hind limbs of grasshopper, horse and bat
(4) Mouthparts of cockroach, mosquito and honey bee

24. Which of the following organ in man is vestigial :
(1) Pinna (2) Wisdom tooth
(3) Fossa ovalis (4) Ileum

25. Who was the first to explain recapitulation theory :
(1) Weismann (2) Haeckel
(3) Darwin (4) Malthus

26. Connecting link between protozoa and one-celled plants is :
(1) *Paramecium*
(2) *Euglena*
(3) *Amoeba*
(4) *Trypanosoma*

27. Connecting link between annelida and mollusca :
(1) Cuttle fish (2) *Octopus*
(3) *Neopilina* (4) *Nautilus*

28. Which of the following sets do not have homologous organs :
(1) Wings of mosquito and butterfly
(2) Wings of butterfly and bat
(3) Mouth parts of cockroach and butter fly
(4) None of them

29. Wings of locust, pigeon, and bat are example of :
(1) Vestigial organs (2) Analogous organs
(3) Homologous organs (4) Exoskeleton

30. Homology is exhibited by :
(1) Wings of butterfly, birds and bat
(2) Paddle of whale, forearm of horse and forelimbs of man
(3) Tail of monkey and bird
(4) Sting of scorpion and honey bee

31. Golden age of Dinosaurs was during :
(1) Cenozoic era (2) Palaeozoic era
(3) Archeozoic era (4) Mesozoic era

32. Evolution of birds and mammals occured in :
(1) Eocene and oligocene periods
(2) Silurian and devonian periods
(3) Carboniferous and Permian periods
(4) Cretaceous and triassic periods

33. The mesozoic era of earth is called the :
(1) Age of amphibians
(2) Age of armoured fishes
(3) Age of primitive man
(4) Age of ruling reptiles

34. An era "age of birds and mammals" is :
(1) Mesozoic (2) Palaeozoic
(3) Cenozoic (4) Cretaceous

35. Origin of life took place in which of the following era :
(1) Mesozoic (2) Palaeozoic
(3) Precambrian (4) Proterozoic

36. Homologous organs are
(1) Dissimilar origin and dissimilar structures
(2) Dissimilar origin but similar functions
(3) Similar origin with similar or dissimilar functions
(4) Similar origin with dissimilar functions

37. Human hand, wing of bat and flipper of whale represent
(1) Analogous organs
(2) Vestigial organs
(3) Homologous organs
(4) Evolutionary organs

38. Dinosaurs disappeared during :
(1) Jurassic (2) Triassic
(3) Cretaceous (4) Permian

39. A connecting link between reptiles and birds is :
(1) Archaeopteryx (2) Platypus
(3) Java Ape man (4) Whale

40. Evolution of heart from one to two, three and four chambered proves :-
(1) Biogenetic law of Haeckel
(2) Lamarckism
(3) Hardy weinberg's law
(4) Neo Darwinism

41. Mammals like reptile originated in:-
(1) Jurassic (2) Triassic
(3) Cretaceous (4) Permian

42. Which is not a vestigial organ in man-
(1) Third molar
(2) Nails
(3) Segmental muscles of abdoman
(4) Coccyx

43. Which evidence of evolution is related to Darwin's finches -
(1) Evidences from biogeographical distribution
(2) Evidences from vestigeal organs
(3) Evidences from embryology
(4) Evidences from palaeontology

44. Similarities in organisms with different genotype indicate :-
(1) Microevolution
(2) Macroevolution
(3) Convergent evolution
(4) Divergent evolution

45. Potato and sweet potato :–
(1) have edible parts which are hamologous organs
(2) have edible parts which are analogous organs
(3) have been introduced in India from the same place
(4) are two species of the same genus

46. The first modern birds appeared during the :-
(1) Cretaceous period (2) Jurassic period
(3) Triassic period (4) Carboniferous period

47. Fossils are :
(1) animals living in burrows
(2) remnants of extinct animals and plants
(3) floating organisms
(4) fast runners

48. The age of fossils is determined by :
(1) analysis of bones
(2) radioactive c^{14} dating
(3) electron microscopy
(4) weighing the fossils

49. Missing link in evolution is :
(1) Peripatus (2) Limulus
(3) Pheretima (4) Archaeopteryx

50. Convergent evolution of two species is associated with:
(1) analogous organs
(2) recent common ancestor
(3) homologous organs
(4) different habitat

51. Organs which have the same fundamental structure but are different in function, are called :
(1) vestigial organs (2) homologous organs
(3) analogous organs (4) homoplastic organs

52. Wings of insects and wings of birds are the examples of :
(1) Analogy (2) Homology
(3) Serology (4) Mimicry

53. Archaeopteryx, a transitional fossil between birds and reptiles was discovered from the rocks of following period :

(1) Jurassic (2) Archeozoic era

(3) Cretaceous (4) Triassic

54. Which of the following is not vestigial in man ?

(1) Tail vertebrae (2) Nails

(3) Nictitating membrane (4) Vermiform appendix

55. Which one of the following is not a vestigial structure in *Homo sapiens* ?

(1) Third molar (2) Epiglottis

(3) Plica semilunaris (4) Segmental muscle

56. Flippers of seal are modified :

(1) fins (2) hindlimb

(3) forelimb (4) gills

57. Darwin's finches are an example of :

(1) Divergent evolution

(2) Adaptive radiation

(3) Allopatric speciation

(4) All of these

58. Change with descent is the basis of which theory :

(1) Recapitulation theory

(2) Oparin's theory

(3) Theory of organic evolution

(4) Cell theory

59. Name of the scientist who gave Mutation Theory :

(1) Wallace (2) Malthus

(3) Darwin (4) De Vries

60. Darwin's Theory of Natural Selection was based on:

(1) Inheritance of acquired characters

(2) Mutation

(3) Enormous rate of reproduction in organisms, struggle for existence and survival of the fittest

(4) Changes due to the use and disuse of organs

61. One of the revolutionary concepts in biology was Charles Darwin's 'Origin of Species'. It deals with

(1) Gene mutation

(2) Use and disue of organs

(3) Germplasm Theory

(4) Natural selection leading to the survival of the fittest

62. Which of the following is responsible for evolution according to Neo-Darwinism :

(1) Mutation

(2) Natural selection

(3) Mutation and Natural selection

(4) Either (1) or (2)

63. Which is the most important factor for evolution of new species :

(1) Geographic isolation (2) Extensive in-breeding

(3) Extensive out-breeding (4) None

64. Frequency of an allele in an isolated population may change due to :-

(1) Genetic drift (2) Gene flow

(3) Mutation (4) Natural selection

65. Some bacteria are able to grow in Streptomycin containing medium due to -

(1) Natural selection

(2) Induced mutation

(3) Reproductive isolation

(4) Genetic drift

66. Which of the following is important for speciation :

(1) Seasonal isolation

(2) Reproductive isolation

(3) Behavioural isolation

(4) Tropical isolation

67. Genetic drift operates in :-

(1) Small isolated population

(2) Large isolated population

(3) Fast reproductive population

(4) Slow reproductive population

68. De Vries gave his mutation theory on organic evolution while working on –

(1) *Oenothera lamarckiana*

(2) *Drosophila melanogaster*

(3) *Pisum sativum*

(4) *Althea rosea*

69. Which of the following factors help in evolution but is not considered as the basic factor for evolution :

(1) Isolation (2) Adaptation

(3) Variation (4) Mutation

70. Factors helps in the formation of new species are :
(1) competition and variation
(2) isolation and competition
(3) competition and mutation
(4) isolation and mutation

71. The idea not related to the Darwinian evolutionary theory is :
(1) survival of the best
(2) struggle for existence
(3) inheritance of acquired characters
(4) origin of species by natural selection

72. Coverstone of theory of Darwin was :
(1) natural selection
(2) inheritance of acquired characters
(3) omnis cellulae e cellulae
(4) higher productivity

73. The chance of elimination of genes from a small population is an example of :
(1) selection pressure (2) speciation
(3) adaptation (4) genetic drift

74. Struggle for existence and survival of the fittest theories were given by :
(1) Wallace (2) Darwin
(3) Lamarck (4) none of these

75. Initiating force of evolution is :
(1) Variation (2) Natural selection
(3) Adaptation (4) Competition

76. According to the Neo-Darwinian theory which of the following is responsible for the origin of new species?
(1) Mutations only
(2) Useful variations and natural selection
(3) Mutations together with natural selection
(4) Hybridization only

77. Which of the following was not given by Darwin's theory of evolution ?
(1) Struggle for existence (2) Over production
(3) Natural selection (4) Genetic drift

78. Which primate is closest to man regarding organic evolution :
(1) Gibbon (2) Gorilla
(3) Sinanthropus (4) Orangutan

79. Which character applies to *Homo sapiens* :
(1) Opposable toe
(2) Large canine
(3) Cranial capacity 1450 cc
(4) Chin prominence absent

80. Which of the following statement is correct :
(1) Proconsul was ancestor of man and ape
(2) Proconsul was ancestor of man and not of ape
(3) Apes were ancestor of man anatomically
(4) None of them

81. Most recent man found as fossil was :
(1) Java man (2) Peking man
(3) Cro-magnon man (4) Hiedelberg man

82. What was the cranial capactiy of java man :
(1) 400 cc (2) 650 cc
(3) 900 cc (4) 1450 cc

83. Which fossil man had cranial capacity almost equal to modern man :
(1) *Australopithecus* (2) Java ape man
(3) Neanderthal man (4) Peking man

84. Largest cranial capacity was found in :
(1) Peking man (2) Neanderthal man
(3) Java man (4) Cro-magnon man

85. Cro-magnon man was :
(1) herbivorous (2) frugivorous
(3) carnivorous (4) omnivorous

86. Which of the following is the most primitive ancestor of man ?
(1) *Homo habilis*
(2) *Ramapithecus*
(3) *Australopithecus*
(4) *Homo neanderthalensis*

87. *Homo habilis* refers to :
(1) Wandering species (2) Ancient man
(3) Modern man (4) Tool-maker

88. Which of the following statement is true:-
(1) *Homo erectus* is direct ancestor of *Homo sapiens*
(2) Neanderthal man is direct ancestor of modern man
(3) *Australopithecus* is direct ancestor of modern man
(4) Fossils of Cromagnon man first found in Ethopia

89. Which of the following is the closer relative of man:-
(1) Chimpanzee (2) Gorilla
(3) Oranguttan (4) Gibbon

90. Which of the following is correct order of the evolutionary history of man :-
(1) Peking man, *Homo sapiens*, Neanderthel man, Cromagnon man
(2) Peking man, Neanderthal man, *Homo sapiens*, Cromagnon man
(3) Peking man, Heidelberg man, Neanderthal man, Cromagnon man
(4) Peking man, Neanderthal man, *Homo sapiens*, Heidelberg man

91. According to fossils which are discovered up to present time, origin and evolution of man was started from which country :
(1) France (2) Java (3) Africa (4) China

92. The banding pattern of chromosomes of 3 and 6 of human beings and chimpanzee shows that they had :
(1) common origin
(2) different origin
(3) same number of chromosomes
(4) similar blood groups

93. Which of the following ancestor of man was fond of painting and weapons making :
(1) Neanderthal man
(2) Cromagnon man
(3) Java man
(4) Peking man

94. The scientific name of *Homo erectus erectus* has been given to :
(1) Cromagnon man (2) Neanderthal man
(3) Java ape man (4) Peking man

95. Closest ancestor to modern man was :
(1) Neanderthal man
(2) Homo habilis
(3) Cro-magnon man
(4) *Australopithecus*

96. The cranial capacity of Peking man was about :
(1) 900 cc (2) 1660 cc
(3) 1075 cc (4) 1450 cc

97. Ancestor of man who first stood erect was :
(1) Australopithecus (2) Cro-magnon man
(3) Java man (4) Peking man

ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	3	3	3	2	2	2	1	1	2	4	3	2	3	2	3
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	3	2	1	2	1	3	2	4	2	2	2	3	2	2	2
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	4	4	4	3	3	3	3	3	1	1	4	2	1	3	2
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	1	2	2	4	1	2	1	1	2	2	3	4	3	4	3
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	4	3	1	1	1	2	1	1	2	4	3	1	4	2	1
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Ans.	3	4	3	3	1	3	3	3	4	4	2	4	1	1	3
Que.	91	92	93	94	95	96	97								
Ans.	3	1	2	3	3	3	1								