BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA

BIOLOGY (GUJRATI ENGLISH)

EVOLUTION

Section A Exam Oriented Questions Answers From Darpan

1. What is evolutionary biology ?

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2. Write an explanatory note on origin of life.

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3. Describe various theories of origin of life.

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4. State the theory of abiogenesis. How does Miller's experiment support this theory?

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5. Describe the formation of first cell.

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6. Discuss the theory based on the evolution of life forms.

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7. How does paleontology, comparative anatomy and morphology help in study of evolution.

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8. Describe various biochemical evidences or molecular evidences ofevolution.

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9. Explain the interpretation of Charles Darwin when he observed a variety of small black birds on Galapagos Island?

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10. Write short note on Adaptive Radiation and Marsupials ofAustralia

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11. Write and explain the conclusion Darwin arrived at after observing the variation seen in the beaks of fmches during his sea voyage

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12. Marsupials and Australian placental mammals exhibit convergent evolution. Explain how?

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13. Describe various biogeographical evidences.

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14. Give an example where more than one adaptive radiations have occurred in an isolated geographic area. Name the type of evolution your example depicts and state why it is so named.

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15. State the modifications of forelimb in animals as an example of homology.

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16. How Biological evolution has taken place ?

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17. Explain theory of inheritance of acquired characters with proper example.

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18. Write short note on Lamarckism.

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19. Describe theory of natural selection? Who gave this theory?

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20. Write short note on Darwinism.

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21. Who gave mutation theory of evolution and explain it.

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22. Write short note on Hardy - Weinberg principle.

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23. Describe the evolutionary history of plant and vertebrates through geological period.

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24. Write a short note on Evolution of Man.

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25. Describe the embryological support for evolution.

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26. Give difference Amongest Lamarckism, Darwinism and Mutation Theory.

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Section B Difference Scientific Reasons Give Differences

1. Homologous structure and Analogous structure

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2. Divergent Evolution and Convergent Evolution

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Section B Difference Scientific Reasons Give Scientific Reasons

1. Life originated from the earths inorganic atmosphere is the post but this no longer happens today.

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2. Genetic drift is much more likely to change allele frequencies in a small population rather than large population.

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Section C Objective Questions Answers Match The Columns

1.

Column - I		Column - II	
(1)	Mutation	(a)	Change in population allele frequencies due to chance alone.
(2)	Gene flow	(b)	Difference in survival and reproduction
(3)	Natural selection	(c)	Immigration, emigration change allele frequencies.
(4)	Genetic drift	(d)	Source of new alleles.

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2.

Column - I		Column - II	
(1)	Human embryos have gill	(a)	Chemical evolution
(2)	Oparin and Haldane	(b)	Stimulation experiment
(3)	Miller and uray	(c)	Wings of bird and butterfly
(4)	Analogous organ	(d)	Outogeny repeats phylogeny

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3.

Column - I		Column - II	
(1)	Charles Darwin	(a)	Mutation theory
(2)	Lamarck	(b)	Germ plasm theory
(3)	Hugo de vries	(c)	Philosophie zoologique
(4)	Ernst Haeckel	(d)	The origin of species
(5)	August Weismann	(e)	Biogenetic law
		(f)	Eassy on population

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Section C Objective Questions Answers Definitions Explanation

1. Evolution

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2. Theory of species creation

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3. Theory of spontaneous generation / Abiogenesis

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4. Proteinoids

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5. Microspheres

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6. Coacervate

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7. Homology

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8. Adaptive radiation or divergent evolution

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9. Analogous organs

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10. Vestigial or rudimentary organs

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11. Recapitulation theory or Biogenetic law

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12. Palaeontology

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13. Fossil

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14. Geological time

View Text Solution

15. Genetic drift

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16. Gene migration (gene flow)

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17. Hominid features

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18. Evolutionary biology

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19. Evolution

View Text Solution

20. Chemical evolution

View Text Solution

21. Abiogenesis

View Text Solution

22. Biogenesis

View Text Solution

23. Divergent evolution

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24. Convergent evolution

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25. Saltation

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Section C Objective Questions Answers Contribution Of Scientist

1. Abbe Lemaiter [1931]

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2. Van Helmont

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3. Louis Pasteur (in 1860)

View Text Solution

4. Oparin and Haldane

View Text Solution

5. Stanely Miller and Harold urey

View Text Solution

6. Van Baer

View Text Solution

7. Ernest Haeckel

View Text Solution

8. Charles Darwin

View Text Solution

9. Lamarck

View Text Solution

10. August Weismann

View Text Solution

11. Hugo de Vries

View Text Solution

12. Alfred Wallace

View Text Solution

13. G.H. Hardy and W. Weinberg

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Section D Textual Exercise

1. Explain antibiotic resistance observed in bacteria in light of Darwinian selection theory.

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2. Find out from newspapers and popular science articles any new fossil discoveries or controversies about evolution.

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3. Attempt giving a clear definition of the term species.

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4. Try to trace the various components of human evolution (hint: brain size and function, skeletal structure, dietary preference, etc.)

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5. Find out through internet and popular science articles whether animals other than man has self- consciousness.

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6. List 10 modern-day animals and using the internet resources link it to a corresponding ancient fossil. Name both.

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7. Practise drawing various animals and plants.

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8. Describe one example of adaptive radiation.

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9. Can we call human evolution as adaptive radiation?

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10. Using various resources such as your school Library or the internet and discussions with your teacher, trace the evolutionary stages of anyone animal, say horse.

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Section E Solution Of Ncert Exemplar Multiple Choice Questions

1. Which of the following is used as an atmospheric pollution indicator?

A. Lepidoptera

B. Lichens

C. Lycopersicon

D. Lycopodium

Answer: B

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2. The theory of spontaneous generation stated that

A. life arose from living forms only

B. life can arise from both living and non-living

C. life can arise from non-living things only.

D. life arises spontaneously, neither from living nor from the non-living.

Answer: C

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3. Animal husbandry and plallL LJreedillg programmes are the examples of

A. reverse evolution

B. artificial selection

C. mutation

D. natural selection

Answer: B

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4. Palaentological evidences for evolution refer to the

A. development of embryo

B. homologous organs

C. fossils

D. analogous organs.

Answer: C

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5. The bones offorelimbs ofwhale, bat, cheetah and man are similar in structure, because

A. one organism has given rise to another

B. they share a common ancestor

C. they perform the same function

D. the have biochemical similarities

Answer: B

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6. Analogous organs arise due to

A. divergent evolution

B. artificial selection

C. genetic drift

D. convergent evolution

Answer: D

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7. $(p+q)^2 = p^2 + 2pq + q^2 = 1$ represents an equation used in

A. population genetics

B. mendelian genetics

C. biometrics

D. molecular genetics

Answer: A

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8. Appearance of antibiotic-resistant bacteria is an example of

A. adaptive radiation

B. transduction

C. pre-existing variation in the population

D. divergent evolution

Answer: C

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9. Evolution oflife shows that life forms had a trend of moving from

A. land to water

B. dryland to wet land

C. fresh water to sea water

D. water to land

Answer: D

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10. Viviparity is considered to be more evolved because

A. the young ones are left on their own

B. the young ones are protected by a thick shell

C. the young ones are protected inside the mother's body and are looked after they are born leading to more chances of survival

D. the embryo takes a long time to develop

Answer: C

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11. Fossils are generally found in:

A. sedimentary rocks

B. igneous rocks

C. metamorphic rocks

D. any type of rock

Answer: A

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12. For the MN-blood group system, the frequencies of M and N alleles are 0.7 and 0.3, respectively. The expected frequency of MN - blood group bearing organisms is likely to be

A. 0.42

B. 0.49

C. 0.09

D. 0.58

Answer: A

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13. Which type of selection explains industrial melanism observed in moth, Biston bitularia:

A. Stabilising

B. Directional

C. Disruptive

D. Disruptive

Answer: B

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14. The most accepted line of descent in human evolution is

A. Australopithecus $\rightarrow$ Ramapithecus $\rightarrow$ Homo sapiens $\rightarrow$ Homo habilis

B. Homo erectus $\rightarrow$ Homo habilis $\rightarrow$ Homo sapiens

C. Ramapithecus $\rightarrow$ Homo habilis $\rightarrow$ Homo erectus $\rightarrow$ Homo sapiens

D. Australopithecus $\rightarrow$ Ramapithecus $\rightarrow$ Homo erectus $\rightarrow$ Homo habilis $\rightarrow$ Homo sapiens.

Answer: C

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15. Which of the following is an example for link species?

A. Lobe fish

B. Dodo bird

C. Sea weed

D. Chimpanzee

Answer: A

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16. Match the scientists listed under column - 'I' with ideas listed column - 'II'.

Column - I		Column - II	
(A)	Darwin	(i)	abiogenesis
(B)	Oparin	(ii)	use and disuse of organs
(C)	Lamarck	(iii)	continental drift theory
(D)	Wagner	(iv)	evolution by natural selection

A. (A - i) (B- iv) (C - ii) (D - iii)

B. (A - iv) (B - i) (C - ii) (D - iii)

C. (A - ii) (B - iv) (C - iii) (D -i)

D. (A - iv) (B - iii) C - ii) (D -i)

Answer: B

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17. In 1953 S. L. Miller created primitive earth conditions in the laboratory and gave experimental evidence for origin of tIrst form of life from pre-ex.isting non-living organic molecules.The primitive earth conditions created include

A. low temperature, volcanic storms, atmosphere rich in oxygen

B. low temperature, volcanic storms, reducing atmosphere

C. high temperature, volcanic storms, non-reducing atmosphere

D. high temperature, volcanic storms, reducing atmosphere containing $CH_4, NH_3, etc.$

Answer: D

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18. Variations during mutations of meiotic recombinations are

A. random and directionless

B. random and directional

C. small and directional

D. random, small and directional

Answer: A

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Section E Solution Of Ncert Exemplar Very Short Answer Type Questions

1. What were the characteristics of life forms that had been fossilised ?

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2. Did aquatic life forms get fossilised? If, yes where do we come across such fossils ?

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3. What are we referring to ? When we say 'simple orgamsms or comp ex orgamsms.

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4. How do we compute the age of a living tree?

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5. Give an example for convergent evolution and identify the features towards which they are converging.

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6. How do we compute the age of a fossil ?

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7. What is the most important pre-condition for adaptive radiation ?

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8. How do we compute the age of a rock ?

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9. When we talk of functional macromolecules (e.g. proteins as enzymes, hormones,

receptors, antibodies etc), towards what are they evolving?

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10. In a certain population, the frequency of three genotypes is as follows

Genotypes:	BB	Bb	bb
frequency:	$22\,\%$	$62\,\%$	$16\,\%$

What is the likely frequency of Band b alleles ?

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11. Among the five factors that are known to affect Hardy-Weinberg equilibrium, three factors are gene flow, genetic drift and genetic recombination. What are the other two factors?

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12. What is founder effect ?

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13. Who among the Dryopithecus and Ramapithecus was more man-like?

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14. By what Latin name the first hominid was known?

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15. Among Ramapithecus, Australopithecines and Homo habilis - who probably did not eat meat?

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Section E Solution Of Ncert Exemplar Short Answer Type Questions

1. Louis Pasteur's experiments, if you recall, proved that life can arise from only pre-existing life. Can we correct this as life evolves

from pre-existent life or otherwise we will never answer the question as to how the first forms of life arose? Comment.

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2. The scientists believe that evolution is gradual. But extinction, part of evolutionary story, are 'sudden' and 'abrupt' and also group-specific. Comment whether a natural disaster can be the cause for extinction of species.

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3. Why is nascent oxygen supported to be toxic to aerobic life forms ?

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4. While creation and presence of variation is directionless, natural selection is directional as it is in the context of adaptation. Comment.

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5. The evolutionary story of moths in England during industrialisation reveals, that 'evolution is apparently reversible'. Clarify this statement.

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6. Comment on the statement that "evolution and natural selection are end result or consequence of some other processes but themselves are not processes".

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7. State and explain any three factors affecting allele frequency in populations.

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8. Gene flow occurs through generations. Gene flow can occur across language barriers in humans. If we have a technique of measuring specific allele frequencies in different population of the world, can we not predict human migratory patterns in pre-history and

history? Do you agree or disagree ? Provide explanation to your answer.

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9. How do you express the meaning of words like race, breed, cultivars or variety?

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10. When we say "survival of the fittest", does it mean that (a) those which are fit only survive,

or (b) those that survive are called fit ? Comment.

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11. Enumerate three most characteristic criteria for designating a Mendelian population.

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12. Migration may enhance or blurr the effects of selection. Comment.

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Section E Solution Of Ncert Exemplar Long Answer Lype Questions

1. Name the law that states that the sum of allelic frequencies in a population remains constant. What are the five factors that influence these values '?

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2. Explain divergent evolution in detail. What is the driving force behind it ?

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3. You have studied the story of Pepper moths in England. Had the industries been removed, what impact could it have on the moth population ? Discuss.

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4. What are the key concepts in the evolution theory of Darwin?

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5. Two organisms occupying a particular geographical area (say desert) show similar adaptive strategies. Taking examples, describe the phenomenon.

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6. We are told that evolution is a continuing phenomenon for all living things. Are humans also evolving? Justify your answer.

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7. Had Darwin been aware of Mendel's work, would he been able to explain the origin of variations. Discuss.

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Section F Multiple Choice Questions

1. Who proposed the theory of special creation ?

A. Aristotle

B. Father Sudrez

C. Prayer

D. E Reddy

Answer: B

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2. Who believed that coacervates as the sole living molecules which gave rise to cells ?

A. Prayer

B. Father Sudrez

C. Oparin

D. E Reddy

Answer: C

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3. The forelimbs of higher vertebrates is the example of what?

A. Analogous organs

B. Homologous organs

C. Connecting link

D. Vestigial organs

Answer: B

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4. What is explained through Marsupials of Australia?

A. Local Adaptive Branching

B. Continental Adaptive Radiation

C. Contemporaneous RadIatIon

D. None of these

Answer: B

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5. In which year HardyWemberg lawwas proposed?

A. 1908

B. 1909

C. 1910

D. 1911

Answer: A

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6. How many years ago earth was originated ?

A. 4000 million

B. 5000 million

C. 2000 million

D. 3000 million

Answer: B

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7. From which fossil Ramapitecus is descended ?

A. Dryopithecus

B. Oreopithecus

C. Kenyapithecus

D. Homo Erectus

Answer: C

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8. Which fossil man is very nearer to modem man ?

A. Cro-magnon man

B. Homo erectus

C. Neanderthal man

D. Dryo pithecus

Answer: A

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9. Which of following character does not contain in I 17) primitive or first life form 'I

A. Replication

B. Nutrition

C. Locomotion

D. Biosynthesis

Answer: C

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10. Which theory is proposed by scientist E Reddy?

A. Abiogenesis

B. Meteorite theory

C. Catatrophism

D. Biogenesis

Answer: D

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11. Which from the following does not belong with theory of evolution ?

A. Eternity

B. Biogenesis

C. Abiogenesis

D. None of above

Answer: D

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12. Which theory gave by Qvier ?

A. Catatrophism

B. Biogenesis

C. Abiogenesis

D. Eternity

Answer: A

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13. Which from the following option a proper for the biogenesis ?

A. Origin of life from the mud, soil, mead, organic manure.

B. New life from pre-existing organisms through reproduction.

C. Cosmos came from other planets and on getting favourable conditions they developed into organisms.

D. Universe has been subjected to sudden revolution.

Answer: B

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14. Which of the following scientist believed that the origin oflife is due to chemical reaction in past?

A. Qvier

B. E. Reddy

C. Haeckel

D. None of above

Answer: C

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15. The earth fragmented before .....millions years ago from the sun.

A. 4000

B. 4500

C. 5000

D. 5500

Answer: C

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16. When earth fragmented from sun, its temperature was .....°C.

A. $5,000^\circ$ to $6,000^\circ$

B. $4,000^{\circ}$ to $5,000^{\circ}$

C. $3,000^{\circ}$ to $4,000^{\circ}$

D. $6,000^{\circ}$ to $7,000^{\circ}$

Answer: A

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17. Which of the following elements present in core of earth ?

A. Iron

B. Iron-copper

C. Iron-nickel

D. Iron-iron

Answer: C

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18. Which of the following elements does not exist in atmosphere of earth ?

A. Helium

B. Carbon

C. Hydrogen

D. Neon

Answer: D

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19. Which from the following elements was active in primitive earth ?

A. Hydrogen

B. Carbon

C. Nitrogen

D. Oxygen

Answer: A

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20. It is a first chemical which form in earth

A. water

B. ammonia

C. methane

D. all of above

Answer: D

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21. It were found as a distinct bodies in cell during molecular evolution

A. AMP

B. ADP

C. CH_4

D. Both (A) and (B)

Answer: D

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22. Its surface layer had the ability for selective absorption of substances from the medium.

A. Coacervates

B. Protein

C. Nucleoprotein

D. All of above

Answer: D

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23. Which process of following known as polymerization '/

A. Formation of macromolecules.

B. Formation of micromolecules to macromolecules.

C. Join by organic and inorganic matter

D. Both (A) and (B)

Answer: B

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24. Which ofthe following associated with nucleotide formation?

A. Pyurin and Pyrimidine

B. Pyurin or Pyrimidine

C. Sugar and phosphate

D. Both (B) and (C)

Answer: D

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25. It is very important for formation oflife.

A. Organic

B. Nucleoprotein

C. Inorganic

D. Nucleic acid

Answer: B

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26. Which of the following molecules coacervates contain as different quantity ?

A. Proteins

B. Organic and Inorganic molecule

C. Nucleoprotein

D. All of above

Answer: D

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27. Which of the following source is respondible for energy of precells ?

A. Solar energy

B. Fermentation of organic meterial

C. Dissolved Inorganic metter is sea

D. Both (A) and (B)

Answer: B

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28. Give correct option by arranging stages of origin of primitive earth.

A. Micromolecule $\rightarrow$ precell $\rightarrow$ macromolecule $\rightarrow$ coacervates

B. Precell $\rightarrow$ micromolecule $\rightarrow$ macromolecule $\rightarrow$ coacervates

C. Coacervates $\rightarrow$ precell $\rightarrow$ micromolecule $\rightarrow$ macromolecule

D. Micromolecule $\rightarrow$ macromolecule $\rightarrow$ coacervates $\rightarrow$ precell

Answer: D

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29. Which from the following option is incorrect for precells?

A. They are anaerobic

B. Differentiated

C. Thin layer of cell outer

D. Reproduction by binary fission

Answer: C

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30. Who gave first molecular evolution of life?

A. Oparin and Haldane

B. Urey and Miller

C. Qvier

D. E Reddy

Answer: A

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31. Which of the following acid contained in Urey and Miller's experiment?

A. Amino acids

B. Hydroxy acid

C. Aliphatic acids

D. All of above

Answer: D

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32. By which process amino acids formed in primitive earth '/

A. By U.V light

B. By lightning

C. The temp. of earth

D. Both (A) and (B)

Answer: D

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33. Choose correct option for reaction chamber of Urey and Millers experiment.

A. Ammonia

B. Methane

C. Hydrogen

D. All of above

Answer: D

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34. Give correct option of development of plant.

A. Seed contained plant $\rightarrow$ Thallophytes $\rightarrow$ Bryophytes $\rightarrow$ Teridophytes

B. Thallophytes $\rightarrow$ Seed contained plant $\rightarrow$ Bryophytes $\rightarrow$ Pteridophytes

C. Thallophytes $\rightarrow$ Bryophytes $\rightarrow$ Pteridophyta $\rightarrow$ Seed contained plant

D. Thallophytes $\rightarrow$ Bryophytes $\rightarrow$ Seed contained plant $\rightarrow$ Pteridophytes

Answer: C

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35. Choose correct option of development of animal kingdom.

A. Protista $\rightarrow$ Multicell tissue $\rightarrow$ Multicellular $\rightarrow$ Invertebrate.

B. Protista $\rightarrow$ Multicellular $\rightarrow$ Invertebrate $\rightarrow$ Vertebrate.

C. Protista $\rightarrow$ Invertebrate $\rightarrow$ Multicell tissue $\rightarrow$ Multicellular

D. Protista $\rightarrow$ Multicell tissue $\rightarrow$ Invertebrate $\rightarrow$ Multicellular

Answer: B

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36. Which ofthe following associated with ear muscle?

A. Vestigial Organ

B. Analogus Organ

C. Homologous Organ

D. None of above

Answer: A

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37. Which of the following proof of homologous organ ?

A. Fin of fish and whale

B. Appendix

C. Thorn ofBougainvillea andTendril of cucurbeat

D. Wings of bat and Aves

Answer: C

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38. Balanoglouses is link between.

A. annelida and Arthopoda

B. fishes and Amphibian

C. reptiles and Aves

D. Invertebrates and chordates

Answer: D

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39. Which characters are Archeopterix characters are associated with which phylum ?

A. Reptiles- Bird

B. Annelida-Arthropoda

C. Fishes-Amphibian

D. Chordates-Invertebrates

Answer: A

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40. Which ofthe following theory given by Osborn '?

A. Fossil

B. Physiological

C. Adaptive radiation

D. None of above

Answer: C

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41. Which of the following theory is associated with Lamark '?

A. Natural selection

B. Mutation

C. Acquired characters

D. None of above

Answer: C

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42. Which of the following option is related with Darwin ?

A. Natural selection

B. Mutation

C. Acquired characters

D. All of above

Answer: A

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43. "The heart which beats throughout life does not become bigger" this statement draw back of theory of .....

A. Hugo -de - Vries

B. Darwin

C. Lamark

D. Both (A) and (B)

Answer: C

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44. Find correct option for modern theory of evolution with respect to the main genetic variation.

A. Migration of population

B. Formation and number of chromosome

C. Natural selection

D. Reproductive isolation

Answer: B

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45. Which scientist worked on evening primrose and gave idea of mutation ?

A. Darwin

B. Hugo de Vries

C. Mendel

D. Do Bzhansky

Answer: B

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46. Which scientist gave base of development of population genetics '

A. Mendel

B. Seth wright

C. Hardy-Weinberg law

D. Mayr and G. L.

Answer: C

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47. Which of the following information gave theory of Hardy-Weinberg law'?

A. Genepool

B. Gene frequency

C. Gene mutation

D. Both (A) and (B)

Answer: D

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48. In population if gene M and gene m both are in equal number, so give the ratio and type of gene.

A. 81 % MM : 18 % Mm : 1 % mm

B. 25 % MM : 50 % Mm : 25 % mm

C. 50 % MM : 25 % Mm : 25 % mm

D. 18 % MM : 81 % Mm : 1 % mm

Answer: B

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49. In which population the rate of evolution is

I 58) zero ?

A. Large population

B. Small population

C. Equilibrium population

D. None of above

Answer: C

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50. Gene flow is important for ..... .

A. gene mutation

B. gene differentiation

C. gene variation

D. gene stabilization

Answer: C

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51. In small population which force of evolution operated by Seth Wright '?

A. Genetic drift

B. Gene fluctuation

C. Gene follow

D. Both (A) and (B)

Answer: D

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52. Life have originated about ..... million years ago.

A. 4000

B. 3000

C. 5000

D. 2000

Answer: A

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53. Sea weeds and few plants existed around ..... millions year ago.

A. 500

B. 300

C. 320

D. 350

Answer: C

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54. How many millions years ago our distant ancestors of our order lived in fresh water ponds in form of crossopterygian fish '?

A. 480

B. 460

C. 380

D. 400

Answer: A

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55. It is very important evolutionary trend.

A. Increase size of brain and development of intelligence.

B. Change of arboreal life into terrestrial life.

C. Loss of opposable toes from hindlimbs.

D. Use of forelimbs for non-locomotory purposes.

Answer: B

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56. Which ancensters are come after evolution of primates '?

A. Gibbon

B. Lemur

C. Chimpanzee

D. All of above

Answer: D

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57. They lived about 30 million years ago.

A. Ramapithecus

B. Proplopithecus

C. Kenyapithecus

D. Dryopithecus

Answer: B

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58. Which characters of the following of Dryopithecus '?

A. Forelimbs shorter than hindlimbs

B. They lived in miocene peri

C. Ancestor of chimpanzee and Gorilla

D. All of above

Answer: D

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59. Which of the following suggest for oreopithecus by stratus and simpson '?

A. Man and parallel evolution

B. More identical dentition to man

C. It lived 12 to 14 million years ago

D. All of above

Answer: A

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60. Its fossil is collected from east Mrica.

A. Ramapithecus

B. Kenyapithecus

C. Australopithecus

D. Dryopithecus

Answer: B

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61. Its short arm resemble to man.

A. Ramapithecus

B. Kenyapithecus

C. Australopithecus

D. Propliopithecus

Answer: D

View Text Solution

62. Its dentition is more identical to dentition of man.

A. Ramapithecus

B. Kenyapithecus

C. Dryopithecus

D. Propliopithecus

Answer: A

View Text Solution

63. They ancestor of dryopithecus.

A. Ramapithecus

B. Aegyptopithecus

C. Kenyapithecus

D. Australiopithecus

Answer: B

View Text Solution

64. It is considered as connecting link between ape and man.

A. Ramapithecus

B. Aegyptopithecus

C. Kenyapithecus

D. Australiopithecus

Answer: D

View Text Solution

65. Its fossils are collected from India and Africa.

A. Ramapithecus

B. Kenyapithecus

C. Australiopithecus

D. Dryopithecus

Answer: A

View Text Solution

66. It lived during late Miocene and early Pliocene.

A. Ramapithecus

B. Kenyapithecus

C. Australiopithecus

D. Dryopithecus

Answer: A

View Text Solution

67. It was 2 to 5 million years old.

A. Ramapithecus

B. Kenyapithecus

C. Australiopithecus

D. Dryopithecus

Answer: C

View Text Solution

68. They were first true man.

A. Homo erectus

B. Australiopithecus

C. Java man

D. Both (A) and (C)

Answer: D

View Text Solution

69. They are connecting link between Australopithecus and Homo sapiens.

A. Homo erectus

B. Java man

C. Kenyapithecus

D. Both (A) and (B)

Answer: D

View Text Solution

70. Which of the following cranial capacity is associated with Neanderthal man ?

A. 1300 CC

B. 1400 CC

C. 1350 CC

D. 1450 CC

Answer: B

View Text Solution

71. The cranial capacity of modern man is

A. 1300 CC

B. 1400 CC

C. 1350 CC

D. 1450 CC

Answer: D

View Text Solution

72. Which of the following cranial capacity fo Rhodesian man ?

A. 1300 CC

B. 1400 CC

C. 1350 CC

D. 1450 CC

Answer: A

View Text Solution

73. Neanderthal man existed ..... years ago.

A. 5,00,000

B. 75000

C. 30000

D. 50000

Answer: B

View Text Solution

74. Cro-Magnon man existed .....years ago.

A. 5,00,000

B. 75000

C. 30000

D. 50000

Answer: C

View Text Solution

75. Cro-Magnon man nearer to which of the following?

A. Rhodesian

B. Neanderthal

C. Modern man

D. All of above

Answer: C

View Text Solution

76. They attempts for food production from plants and domenstication of animals.

A. Cro-magnon

B. Homo sapiens

C. Modern man

D. Both (B) and (C)

Answer: D

View Text Solution

77. Join correct column.

Column - I Name of theory		Column - II Ideas of theory		Column - III Theory before it		Column - IV Theory after it	
A	Meteority Theory	P	All elements were created within six days	W	Abiogenesis	1	Eternity
B	Biogenesis	Q	Cosmos came from other planets and on getting favourable condition they developed into organism	X	Catatrophism	2	Organic evolution
C	Special Creation	R	Formation of new life from preexisting organism through reproduction	Y	Biogenesis	3	Meteority theory
D	Organic evolution	S	Non living substances Colloidal system simple life	Z	Special Creation	4	Modern concept

A. (A - Q - W - 1), (B - P - X - 2), (C - R - Y - 4), (D - S - Z - 3)

B. (A-Q-Y-1), (B-S-W-3), (C-P-X-2), (D-R-Z-4)

C. (A - P - X - 3), (B - S - Y - 2), (C - R - Z - 4), (D - Q - W - 1)

D. (A-R-Y-1), (B-P-X-4), (C-Q-W-3), (D-S-Z-2)

Answer: B

View Text Solution

78. Join correct column.

Column - I Name of theory		Column - II Name of scientist		Column - III Ideas of theory	
A	Biogenesis	P	Haeckel	W	Universes has been subjected to catastrophes or sudden revolution at different intervals
B	Special creation	Q	Sudrez	X	Origin of life from the non living inorganic compound than colloidal system
C	Catatrophism	R	Qvier	Y	New life from pre existing organisms through reproduction
D	Organic evolution	S	F. Reddy	Z	All elements were created within six days.

A. (A-S-Y), (B-Q-X), (C-P-Z), (D-R-W)

B. (A - P - W), (B - R - X), (C - Q - Y), (D - S - Z)

C. (A - Q - X), (B - R - Z), (C - S - W), (D - P - Y)

D. (A-S-Y), (B-Q-Z), (C-R-W), (D-P-X)

Answer: D

View Text Solution

79. Join correct column.

Column - I Stages of chemical evolution		Column - II Substances of stages		Column - III Change of stages in last phase	
A	Origin of earth	P	Amino acid, fatty acid, purin, pyrimidine, mono saccharide, ADP, AMP	W	Water as chemical, formation of ammonia and methane.
B	Water, Ammonia and Methane formation	Q	Proteins, lipids, nucleic acids, polysaccharide, nucleoprotein	X	Selective absorption of substances from the medium
C	Formation of micromolecules	R	Heavy elements like iron, nickel, gases like helium, hydrogen oxygen, nitrogen, carbon.	Y	Micromolecule transferred in macromolecule by polymerization process.
D	Formation of macromolecules	S	Primitive earth with hydrogen, carbon, nitrogen and oxygen	Z	When earth cooled heavy elements occupied the core of earth and light elements occupied the atmosphere of earth.

A. (A - P - W), (B - S - Y), (C - Q - Z), (D - R - X)

B. (A - R - Z), (B - S - W), (C - P - X), (D - Q - Y)

C. (A - R - X), (B - Q - Y), (C - P - W), (D - S - Z)

D. (A - R - Y), (B - S - X), (C - Q - W), (D - P - Z)

Answer: B

View Text Solution

80. Join correct column.

Column - I Stages of life-form evolution		Column - II Structural Component		Column - III	
A	Primitive cell	P	Protein, nucleo protein, nucleic acid, lipids	W	Precells
B	Macromolecules	Q	Organic, inorganic molecule, protein, nucleoprotein	X	Coacervates
C	Coacervates	R	Fermentation of organic substances	Y	Macromolecules
D	Micromolecules	S	AMP, ADP, amino acid, fatty acid, pyrimidine, monosaccharide as distinct bodies	Z	Cells

A. (A - R - Z), (B - Q - W), (C - P - X), (D - S - Y)

B. (A - P - W), (B - R - Z), (C - S - Y), (D - Q - X)

C. (A - R - Z), (B - P - X), (C - Q - W), (D - S - Y)

D. (A - Q - X), (B - P - V), (C- R - Z), (D - S- W)

Answer: C

View Text Solution

81. Join correct column.

Column - I Evidence		Column - II Example		Column - III Definition	
A	Vestigial organ	P	Forelimbs of higher Vertebrates	W	Organs are the useless and functionless degenerate structure which were functional in some other animals or in ancestors.
B	Homologous organs	Q	Fins of fishes and Whales	X	The animals exhibiting characters of two adjacent taxonomic groups
C	Analogous organs	R	Balanoglossus and Peripatus	Y	(Organ) and functionary save but anatomically dissimilar
D	Connecting links	S	Ear muscles, wisdom teeth	Z	Similar in morphology anatomy and Embryology but dissimilar in their functions

A. (A - S - W), (B - P - Z), (C - Q-V), (D - R - X)

B. (A - P - V), (B - S - X), (C - R - Z), (D - Q - W)

C. (A - S - X), (B - R - V), (C - Q- W), (D - P - Z)

D. (A - R - Z), (B - Q - X), (C - p - W), (D - S - Y)

Answer: A

View Text Solution

82. Join correct column.

Column - I Example		Column - II Phylum - I of connecting link		Column - II Phylum - II of connecting link	
A	Lung fish	P	Chordates	W	Fishes
B	Balanoglossus	Q	Bird (Aves)	X	Invertebrate
C	Peripatus	R	Amphibians	Y	Annelida
D	Archeopterix	S	Arthropoda	Z	Reptile

A. (A - R - W), (B - P - X), (C - S - V), (D - Q - Z)

B. (A - P - X), (B - Q - V), (C - R - Z), (D - S - W)

C. (A - P - V), (B - S - X), (C - Q - W), (D - R - Z)

D. (A - P - Z), (B - Q - V), (C - S - X), (D - R - W)

Answer: A

View Text Solution

83. Join correct column.

Column - I Name of different Theory		Column - II Ideas of theory		Column - III Drawbacks of theory		Column - IV Law	
A	Modern Concept	P	Characters which acquires are inherited to their offspring and charaters increases or decrease generation to generation	W	Genes are not included in their theory	1	Mutation
B	Hugo-De-Vries	Q	New species originate only from pre-existing one.	X	The heart which beats throughout life does not become bigger	2	Heriditary of acquired characters
C	Darwinism	R	New variations in characters by mutation	Y	Does not explain the origin of variation	3	Of genes
D	Lamarkism	S	Changes in chromosome structure number, genetic recombination reproductive isolation	Z	No drawback	4	Natural selection

A. (A - S - Z - 3), (B - R - W - 1), (C - Q - Y - 4), (D - P - X - 2)

B. (A - P - W - 1), (B - S - X - 2), (C - R - Z - 4), (D - Q - Y ·3)

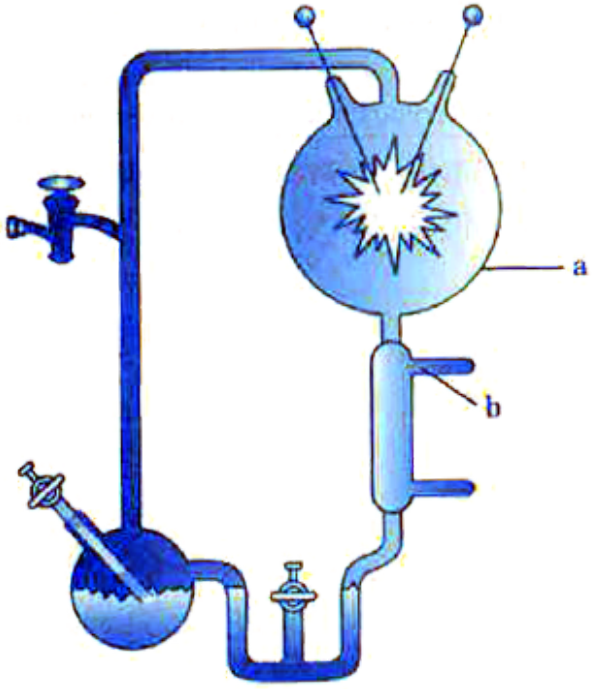
C. (A - Q - X - 2), (B - P - Y - 3), (C - R - W - 1), (D - S - Z - 4)

D. (A - P - Y - 3), (B - Q - W - 4), (C - S - X - 2), (D - R - Z - 1)

Answer: A

View Text Solution

84. Which procedure is done 'b' in given figure ?



A. The mixture is cooled to produce liquid.

B. To give electric shock

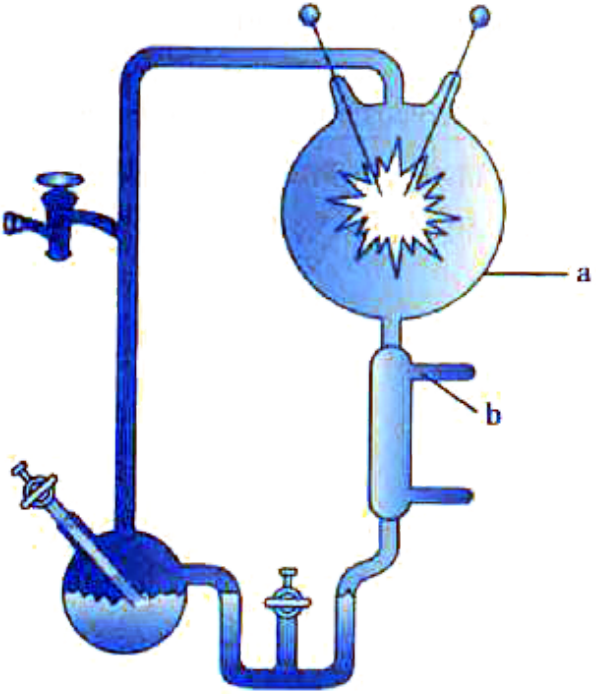
C. Chromatography process

D. None of above

Answer: A

View Text Solution

85. a' is associated with whom in figure ?



A. Condensor

B. Reaction chamber

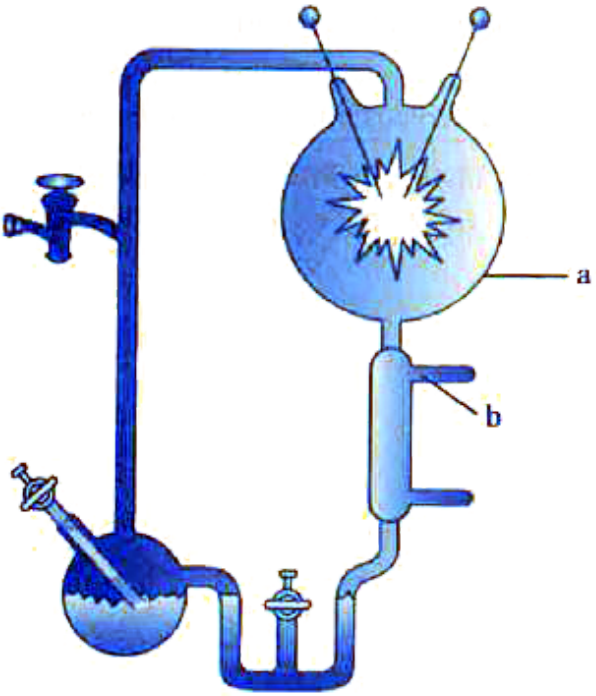
C. Flask

D. Electrod

Answer: B

View Text Solution

86. Which substances are taken in the 'a' Reaction Chamber in Figure ?



A. Methane

B. Steam of water

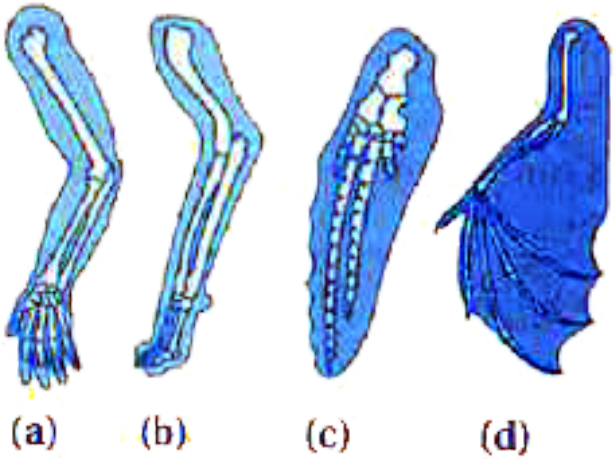
C. Ammonia

D. All of above

Answer: D

View Text Solution

87. Whose Forelimbs are given in 'c' in figure?



A. Man

B. Dog

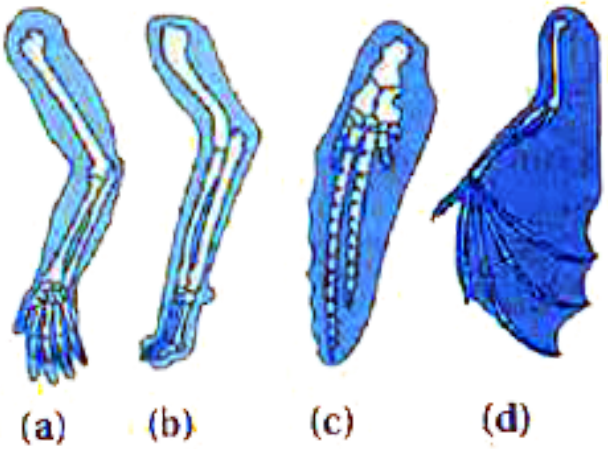
C. Aves

D. Whale

Answer: D

View Text Solution

88. Whose forelimb designed as 'a' in figure ?



A. Man

B. Dog

C. Aves

D. Whale

Answer: A

View Text Solution

89. What indicates 'a' in figure ?

A. Cucurbita tendrils

B. Leaf of bougainvillea

C. Thorn of bougainvillea

D. Leaf of cucurbita

Answer: C

View Text Solution

90. b' is Indicate what in figure?

A. Tendrils of cucurbita

B. Leaf of bougainvillea

C. Thorn of bougainvillea

D. Leaf of cucurbita

Answer: A

View Text Solution

91. In what precell is differentiated with passes of time ?

A. Tissue

B. Organ

C. Cell

D. System

Answer: C

View Text Solution

92. Organs which are similar in their morphology but dissimilar in function ?

A. Analogous

B. Connective link

C. Vestigial organ

D. Homologous

Answer: D

View Text Solution

93. The organs which are similar in their function but dissimilar in structure are know as ..... .

A. Analogous

B. Connective link

C. Vestigial organ

D. Homologous

Answer: A

View Text Solution

94. Which is incorrect for vestigial organ ?

A. Vermiform appendix

B. Wisdom teeth

C. Nictitating membrane

D. Heart

Answer: D

View Text Solution

95. Which is connecting link between fish and amphibia ?

A. Peripatus

B. Balanoglossus

C. Lung fish

D. Archeopterix

Answer: C

View Text Solution

96. Who proposed principal ofadaptive radiation ?

A. Osborn

B. Darwin

C. E Reddy

D. Cuvier

Answer: A

View Text Solution

97. Is not a type of adaptive radiation ?

A. Local adaptive branching

B. Continental adaptive radiation

C. Contemporaneous radiation

D. Simple radiation

Answer: D

View Text Solution

98. Which type of radiation are exhibited by Australian marsupials ?

A. Local adaptive branching

B. Continental adaptive radiation

C. Contemporaneous radiation

D. Simple radiation

Answer: B

View Text Solution

99. In which year Darwin theory was proposed ?

A. 1959

B. 1859

C. 1759

D. 1659

Answer: B

View Text Solution

100. Which theory is also known as 'mutation theory' ?

A. Darwin

B. Lamark

C. De vries

D. None of these

Answer: C

View Text Solution

101. On which Hugo de vries worked and gave an idea about mutation ?

A. Evening primrose

B. Morning primrose

C. Primrose

D. All of these

Answer: A

View Text Solution

102. In which year Hardy-Weinberg's principal was propose ?

A. 1906

B. 1907

C. 1908

D. 1909

Answer: C

View Text Solution

103. How many million years before amphibians were originated ?

A. 360

B. 250

C. 165

D. 325

Answer: D

View Text Solution

104. How many million years before sea weeds and some plants came into existence ?

A. 360

B. 325

C. 320

D. 165

Answer: C

View Text Solution

105. According to biological clock at what time human came into existence ?

A. 0.99930555555556

B. 0.86805555555556

C. 0.82638888888889

D. 0.95763888888889

Answer: A

View Text Solution

106. Which of the following is not included into prosimians ?

A. Tree shrews

B. Gibbons

C. Lemurs

D. Lorises

Answer: B

View Text Solution

107. Which of the following is not included into anthropoids ?

A. Gibbons

B. Chimpanzees

C. Lamur

D. Human

Answer: C

View Text Solution

108. How many million years before Propliopithecus was showing existence?

A. 20

B. 30

C. 40

D. 50

Answer: B

View Text Solution

109. Man lived during late Miocene and early Pliocene period .....

A. Dryopithecus

B. Oreopithecus

C. Ramapithecus

D. Kenyapithecus

Answer: C

View Text Solution

110. Who links the characters of man and ape ?

A. Australopithecus

B. Dryopithecus

C. Rarnapithecus

D. Kenyapithecus

Answer: A

View Text Solution

111. Fossil of which man is found from Java ?

A. Homo erectus

B. Java man

C. (A) and (B)

D. None of these

Answer: C

View Text Solution

112. Which is the first true man?

A. Homo erectus

B. Java man

C. Peking man

D. All of these

Answer: D

View Text Solution

113. Mention the cranial capacity ofNeanderthal man

A. 1100 CC

B. 1200 CC

C. 1300 CC

D. 1400 CC

Answer: D

View Text Solution

114. How many years before modern man started?

A. 7000

B. 8000

C. 9000

D. 10000

Answer: B

View Text Solution

115. How many races of man ?

A. Five

B. Six

C. Seven

D. Eight

Answer: A

View Text Solution

116. How many million years before reptiles were existed?

A. 200

B. 250

C. 300

D. 350

Answer: B

View Text Solution

117. In recent years, DNA sequences (nucleotide sequence) of mt-DNA and Y-chromosomes were considered for the study of human evolution, because

A. they can be studied from the samples of fossil remains

B. they are small and therefore, easy to study

C. they are uniparental in origin and do not take part in recombination

D. their structure is known in greater detail.

Answer: C

View Text Solution

118. Which type of radiation is seen in rhinoceros living in Africa with two district types, one is grazing living in open land area and second browsing type living in wooded area ?

A. Zonal radiation

B. Continental Adaptive radiation

C. Local Adaptive Branching

D. Contemporaneous radiation

Answer: C

View Text Solution

119. Which of the following option shows correctly matched pairs for Column-I and

Column-II ?

Column - I		Column - II	
(i)	Gene pool	(p)	Genes of one population are transferred to another population
(ii)	Gene frequency	(q)	The sum total of genes present in a mendalian population
(iii)	Gene flow	(r)	The ratio of gene in a population
(iv)	Genetic drift	(s)	The gene frequencies are found to fluctuate purely by chance

A. (i - q), (ii - p), (iii - s), (iv - r)

B. (i - q), (ii - r), (iii - s), (iv - p)

C. (i - q), (ii - r), (iii - p), (iv - s)

D. (i - r), (ii - s), (iii - p), (iv - q)

Answer: C

View Text Solution

120. Which of the following statements are true to the Lamarckism?

P: Organisms and their organs are constantly increasingin size.

Q : Unused organs become developed.

R: Characters which are acquired by organism

are not inherited.

S : Development ot organs is induced and maintained under environmental pressure.

A. Q and R

B. P and S

C. Q and S

D. R and P

Answer: B

View Text Solution

121. In one population,

Frequency of X gene =m =80%

Frequency of Y gene =n =20%

Frequency of XY = % and

Frequency of XX = %

(Use Hardy-Weinberg law)

A. 4%, 32%

B. 64%, 32%

C. 4%, 64%

D. 32%, 64%

Answer: D

View Text Solution

122. According to Seth Wright effect ..... .

A. Gene frequency remains constant in small population.

B. Gene frequency fluctuates in large population.

C. Gene frequency remains constant in large population.

D. Gene frequency fluctuates in small population.

Answer: D

View Text Solution

123. From the following, which animal group is studied for embryological evidence for the evidences for Evolution?

A. Insects, Opposum, Whales

B. Insects, Whales, Bats

C. Opposum, Monkey, Man

D. Peripatus, Balanoglossus, Archeopterix

Answer: C

View Text Solution

124. In the scale used in Geological clock, 1 minute = ... years.

A. 52,000 years

B. 18,75,00,000 years

C. 52,500 years

D. 3,25,000 years

Answer: D

View Text Solution

125. Which of the following gives a clear under-

standingofHardy - Weinberg law?

A. Gene pool

B. Gene frequency

C. Gene transcription

D. Gene pool and Gene frequency both

Answer: D

View Text Solution

126. How many years are considered in one minute in Geological clock?

A. 52000 years

B. 1,87,500,000 years

C. 3,25,000 years

D. 1,90,000 years

Answer: C

View Text Solution

127. In sea urchin DNA, which is double stranded, 17% of the bases were shown to be

cytosine. The percentages of the three bases expected to be present in this DNA are:

A. G 34%, A 24.5%, T 24.5%

B. G 17%, A 16.5%, T 32.5%

C. G 17%, A 33%, T 33%

D. G 8.5%, A 50%, T 24.5%

Answer: C

View Text Solution

128. Which of the following had the smallest brain capacity?

A. Homo erectus

B. Homo sapiens

C. Homo neanderthalensis

D. Homo habilis

Answer: D

View Text Solution

129. A population will not exist in Hardy-Weinberg equilibrium if:

A. individuals mate selectively

B. there are no mutations

C. there is no migration

D. the population is large

Answer: A

View Text Solution

130. How does protocells in course oftime differentiated into cells?

A. By development of cilia and flagella

B. By development of double layered membrane as limiting membrane

C. By development of chlorophyll pigments

D. By development of DNA-RNA system

Answer: D

View Text Solution

131. Eyes of a voraceous reader do Dot become larger or brighter. The heart which beats throughout life does not become bigger. The above statements indicate drawback of whose principle?

A. Dobzhansky

B. De Vries

C. Lamark

D. Darwin

Answer: C

View Text Solution

132. Which is the correct sequence of ancestors in the path ofprimates evolution?

A. Crossopterygian $\rightarrow$ Cotylosaur $\rightarrow$ Therapsid $\rightarrow$ Labyrinthodont $\rightarrow$ Insectivors $\rightarrow$ Primates

B. Labyrinthodont $\rightarrow$ Cotylosaur $\rightarrow$ Therapsid $\rightarrow$ Crossopterygian $\rightarrow$ Insectivors $\rightarrow$ Primates

C. Crossopterygian $\rightarrow$ Labyrinthodont $\rightarrow$ Cotylosaur $\rightarrow$ Therapsid $\rightarrow$ Insectivors $\rightarrow$ Primates

D. Crossopterygian $\rightarrow$ Therapsid $\rightarrow$ Cotylosaur $\rightarrow$ Labyrinthodont $\rightarrow$ Insectivors $\rightarrow$ Primates

Answer: C

View Text Solution

133. In recent years, DNA sequences (nucleotide sequence) of mt-DNA and V-chromosomes were considered for the study of human evolution, because

A. they can be studied from the samples of fossil remains

B. they are small and therefore, easy to study

C. they are uniparental in origin and do not take part in recombination

D. their structure is known in greater detail.

Answer: C

View Text Solution

134. Which one of the following sequences was proposed by Darwin and Wallace for organic evolution?

A. Variations, natural selection, overproduction, constancy of population size

B. Overproduction, variations, constancy of population size, natural selection

C. Variations, constancy of population size, overproduction, natural selection

D. Overproduction, constancy of population size, variations, natural selection

Answer: B

View Text Solution

135. Industrial melanism is an example of

A. defensive adaptation of skin against ultraviolet radiations

B. drug resistance

C. darkening of skin due to smoke from industries

D. protective resemblance with the surroundings

Answer: D

View Text Solution

136. In a random mating population in equilibrium, which of the following brings about a change in gene frequency in a non-directional manner?

A. Migration

B. Mutations

C. Random drift

D. Selection

Answer: C

View Text Solution

137. Convergent evolution is illustrated by

A. dogfish and whale

B. rat and dog

C. bacterium and protozoan

D. starfish and cattle fish

Answer: A

View Text Solution

138. Which one of the following describes correctly the homologous structures?

A. Organs appearing only in embryonic stage and disappearing later in the adult

B. Organs with anatomical similarities, but performing different functions

C. Organs with anatomical dissimilarities, but performing same function.

D. Organs that have no function now, but had an important function in ancestors

Answer: B

View Text Solution

139. Darwin in his 'Natural Selection Theory' did not believe in any role of which one of the following in organic evolution?

A. Discontinuous variations

B. Parasites and predators as natural enemies

C. Survival of the fittest

D. Struggle for existence

Answer: A

View Text Solution

140. Random genetic drift in a population probably results from

A. small population size

B. highly genetically variable individuals

C. interbreeding within this population

D. constant low mutation rate

Answer: A

View Text Solution

141. Presence of gills in the tadpole of frog indicates that

A. fishes were amphibions in the past

B. fishes evolved from frog-like ancestors

C. frogs will have gills in future

D. frogs evolved from gilled ancestors

Answer: D

View Text Solution

142. What kind of evidence suggested that man is more closely related with chimpanzee than with other hominoid apes?

A. Evidence from DNA from sex chromosomes only

B. Comparison of chromosomes morphology only

C. Evidence from fossil remains and the fossil mitochondrial DNA alone

D. Evidence from DNA extracted from sex chromosomes, autosomes and mitochondria

Answer: D

View Text Solution

143. Age of fossils in the past was generally determined by radio-carbon method and other methods involving radioactive elements found in the rocks. More precise methods, which were used recently and led to the revision of the evolutionary periods for different groups of organisms, includes

A. study of carbohydrates/proteins in fossils

B. study of the conditions of fossilization

C. electron spin resonance (ESR) and fossil DN

D. study of carbohydrates/proteins in rocks

Answer: C

View Text Solution

144. According to oparin, which one of the following was not present in the primitive atmosphere of the earth ?

A. Methane

B. Oxygen

C. Hydrogen

D. Water vapour

Answer: B

View Text Solution

145. Which of the following is the relatively most accurate method for dating of fossils ?

A. Radio-carbon method

B. Potassium-argon method

C. Electron-spin resonance method

D. Uranium-lead method

Answer: A

View Text Solution

146. Animals have the innate ability to escape from Predatlon. Examples for the same are given below. Select the Incorrect example.

A. Colour change in Chameleon

B. Enlargement of body size by swallowing air in puffer fish

C. Poison fangs in snakes

D. Melanism in moths

Answer: C

View Text Solution

147. There are two opposing views about origin of modern man. According to one view Homo erectus in Asia were the ancestors of modern man. A study of variation of DNA however suggested African origin of modern man. What kind of observation on DNA, variation could suggest this ?

A. Greater variation in Asia than in Africa

B. Greater variation in Africa than in Asia

C. Similar variation in Africa and Asia

D. Variation only in Asia and no variation in Africa

Answer: A

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148. Which one of the following experiments suggests that simplest living organisms could not have originated spontaneously from non living matter?

A. Larvae could appear in decaying organic matter.

B. Microbes did not appear in stored meat

C. Microbes appeared from unsterilized organic matter

D. Meat was not spoiled, when heated and kept sealed in a vessel.

Answer: D

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149. Which one of the following phenomena supports Darwin's concept of natural selection in organic evolution?

A. Development of transgenic animals

B. Production of 'Dolly', the sheep by cloning

C. Prevalence of pesticide resistant insects

D. Development of organs from 'stem cells' for organ transplantation

Answer: C

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150. Using imprints from a plate with complete medium and carrying bacterial colonies, you can select streptomycin resistant mutants and prove that -such mutations do not originate as adaptation. These imprints need to be used

A. on plates with and without streptomyci

B. on plates with minimum medium

C. only on plates with streptomycin

D. only on plates without streptomycin

Answer: C

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151. De-Vries gave his mutation theory on organic evolution while working on

A. pisum sativum

B. drosophila melanogaster

C. Oenothera lamarckiana

D. althea rosea

Answer: C

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152. Which one of the following amino-acid was not found to be synthesized in Miller's experiment?

A. Aspartic acid

B. Glutamic acid

C. Alanine

D. Glycine

Answer: B

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153. lurassic period of the mesozoic era was characterised by

A. radiation of reptiles and origin of mammal like reptiles

B. dinosaurs become extinct and angiosperms appeared

C. flowering plants and first dinosaurs appeared

D. gymnosperms were dominant plants and first birds appeared

Answer: D

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154. Evolutionary history of an organism is known as

A. ancestry

B. paleontology

C. outology

D. phylogeny

Answer: D

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155. An important evidence in favour of organic evolution is the occurrence of

A. analogous and vestigial organs

B. homologous organs only

C. homologous and analogous organs

D. homologous and vestigial organs

Answer: D

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156. Which onc of thc following is not a living fossil ?

A. Sphenodon

B. Archaeopteryx

C. Peripatus

D. King crab

Answer: B

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157. When two species ofdifferent genealogy come to resemble each other as a result of adaptation, the phenomenon is termed

A. microevolution

B. co-evolution

C. convergent evolution

D. divergent evolution

Answer: C

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158. Among the human ancestors the brain size was more that 1000 cc in

A. homo erectus

B. ramapithecus

C. homo habilis

D. homo neanderthalensis

Answer: D

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159. Which one of the following statement is correct?

A. There is no evidence of the existence of gills during embryogenesis of mammals

B. All plant and animal cells are totipotent

C. Ontogeny repeats phylogeny

D. Stem cells are specialize cells.

Answer: C

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160. The concept of chemical evolution is based on

A. interaction of water, air and clay under intense heat

B. effect of solar radiation on chemicals

C. possible origin of life by combination of chemicals under suitable environmental conditions

D. crystallization of chemicals.

Answer: C

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161. The finches of Galapagos islands provide an evidence in favour of

A. evolution due to mutation

B. retrogressive evolution

C. biogeographical evolution

D. special creation.

Answer: C

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162. What is common between parrot, platypus and kangaroo ?

A. Toothless jaws

B. Functional post-end tail

C. Ovoparity

D. Homeothermy

Answer: D

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163. Which one of the following is a matching pair of a body feature and the animal possessing it '{

A. Ventral central nervous - Leech system

B. Pharyngeal gill slits - Chameleon absent in embryo

C. Ventral heart - Scorpion

D. Post-end tail - Octopus.

Answer: A

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164. What is common to whale, seal and shark

'(

A. Thick subcutaneous fat

B. Convergent evolution

C. Homoiothermy

D. Seasonal migration.

Answer: B

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165. Industrial melanism as observed in peppered moth proves that

A. the melanic form of the moth has no selective advantage over lighter form in industrial area

B. the lighter-form moth has no selective advantage either in polluted industrial area or non-polluted area

C. melanism is a pollution-generated feature

D. the true black melanic forms arise by a recurring random mutation

Answer: D

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166. Adaptive radiation refers to

A. evolution of different species from a common ancestor

B. migration of members of a species to different geographical areas

C. power of adaptation in an individual to a variety of environments

D. adaptations due to geographical isolation.

Answer: A

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167. One of the important consequences of geographical isolation is

A. preventing speciation

B. speciation through reproductive isolation

C. random creation of new species

D. no change in the isolated fauna.

Answer: B

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168. Which one of the following in birds, indicates their reptilian ancestry?

A. Scales on their hind limbs

B. Four-chambered heart

C. Two special chambers crop and gizzard in their digestive tract

D. Eggs with a calcareous shell

Answer: A::D

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169. Which one of the following scientists name is correctly matched with the theory put forth by him ?

A. Weismann - Theory of continuity of Germplasm

B. Pasteur - Inheritance of acquired characters

C. De Vries - Natural selection

D. Mendel - Theory of Pangenesis

Answer: A

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170. Darwinism finches are an excellent example of

A. adaptive radiation

B. seasonal migration

C. brood parasitism

D. connecting links

Answer: A

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171. Thorn of Bougainvillea and tendril of cucurbita are example of

A. analogous organs

B. homologous organs

C. vestigial organs

D. retrogressive evolution

Answer: B

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172. Which one of the following pairs of items correctly belongs to the category of organs mentioned against it ?

A. Thorn of Bougainvillea and tendril of Cucurbita - Analogous organs

B. Nictitating membrane and blind spot in human eye - Vestigial organs

C. Nephridia of earthworm and malpighian tubules of Cockroach - Excretory organs

D. Wings of honey bee and wings of crow - Homologous organs

Answer: C

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173. Which one of the following is incorrect about the characteristics of protobionts (coacervates and microspheres) as envisaged in the biogenic origin of life ?

A. They were able to reproduce

B. They could separate combinations of molecules from the surroundings

C. They were partially isolated from the surroundings

D. They could maintain an internal environment

Answer: B

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174. Peripatus is a connecting link between

A. mollusca and Echinodermata

B. annelida and Arthropoda

C. coelenterata and Porifera

D. ctenophora and Platyhelminthes

Answer: B

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175. Darwin's finches are a good example of

A. industrial melanism

B. connecting link

C. adaptive radiation

D. convergent evolution

Answer: C

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176. What was the most significant trend in evolution of modern man (Homo sapiens) from his ancestors?

A. Upright posture

B. Shortening of jaws

C. Binocular vision

D. Increasing brain capacity

Answer: D

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177. The process by which organisms with different evolutionary history evolve similar phenotypic adaptations in response to a common environmental challenge, is called

A. natural selection

B. convergent evolution

C. non-random evolution

D. adaptive radiation

Answer: B

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178. Variation in gene frequencies within populations can occur by chance rather than by natural selection. This is referred to as

A. genetic flow

B. genetic drift

C. random mating

D. genetic load

Answer: B

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179. According to Darwin, the organic evolution is due to

A. intraspecific competition

B. interspecific competition

C. competition within closely related species

D. reduced feeding efficiency in one species due to the presence of interfering

species

Answer: B

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180. The tendency of population to remain in genetic equilibrium may be disturbed by

A. random mating

B. lack of migration

C. lack of mutations

D. lack of random mating

Answer: D

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181. The eyes of Octopus and eyes of cat show different patterns of structure, yet they perform similar function. This is an example of

A. homologous organs that have evolved due to convergent evolution

B. homologous organs that have evolved due to divergent evolution

C. analogous organs that have evolved due to convergent evolution

D. analogous organs that have evolved due to divergent evolution

Answer: C

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182. Which one of the following are analogous structures?

A. Wings of bat and wings of pigeon

B. Gills of prawn and lungs of man

C. ThorIls of Bougainvillea and tendrils of Cucurbita

D. Flippers of dolphin and legs of horse

Answer: A

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183. Forelimbs ofcat, lizard used in walking forelimbs ofwhale used in swimming and forelimbs ofbats used in flying are an example of

A. analogous organs

B. adaptive radiation

C. homologous organs

D. convergent evolution

Answer: C

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184. Industrial melanism is an example of

A. Neo Darwinism

B. Natural selection

C. Mutation

D. Neo Lamarckism

Answer: B

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185. The wings of a bird and the wings of an insect are

A. homologous structures and represent divergent evolution

B. analogous structures and represent convergent evolution

C. phylogenetic structures and represent divergent evolution

D. homologous structures and represent convergent evolution

Answer: B

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186. Which of the following is the correct sequence of events in the origin of life ?

(I) Formation of protobionts.

(II) Synthesis of organic monomers.

(III) Synthesis of organic polymers.

(IV) Formation of DNA-based genetic systems.

A. I, II, III, IV

B. I, III, II, IV

C. II, III, I, IV

D. II, III, IV, I

Answer: C

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187. The chronological order of human evolution from early to the recent is

A. Australopithecus $\rightarrow$ Rarnapithecus $\rightarrow$ Homo habilis $\rightarrow$ Homo erectus

B. Ramapithecus $\rightarrow$ Australopithecus $\rightarrow$ Homo habilis $\rightarrow$ Homo erectus

C. Ramapithecus $\rightarrow$ Homo habilis $\rightarrow$ Australopithecus $\rightarrow$ Homo erectus

D. Ramapithecus $\rightarrow$ Homo habilis $\rightarrow$ Australopithecus $\rightarrow$ Homo erectus

Answer: B

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188. In Hardy-Weinberg equation, the frequency of heterozygous individual is represented by

A. p2

B. 2pq

C. pq

D. q2

Answer: B

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189. Genetic drift operates in

A. small isolated population

B. large isolated population

C. non-reproductive population

D. slow reproductive population

Answer: A

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190. Following are the two statements regarding the origin of life

(I) The earliest organisms that appeared on the earth were non-green and presumably anaerobes.

(II) The first autotrophic organisms were the chemoautotrophs that never released oxygen. Of the above statements which one of the following options is correct?

A. II is correct but I is false

B. Both I and II are correct

C. Both I and II are false

D. I is correct but II is false

Answer: B

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191. Which of the following structures is homologous to the wing of a bird ?

A. Wing of a moth

B. Hind limb of rabbit

C. Flipper of whale

D. Dorsal fin of a shark

Answer: C

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192. Analogous structures are a result of

A. convergent evolution

B. shared ancestry

C. stabilising selection

D. divergent evolution

Answer: A

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193. Which of the following represents order of 'Horse' ?

A. Equidae

B. Perissodactyla

C. Caballus

D. Ferus

Answer: B

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194. According to Hugo de - Vries, the mechanism of evolution is

A. Minor mutations

B. Multiple step mutations

C. Phenotypic variations

D. Saltation

Answer: B

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195. Among the following sets of examples for divergent evolution, select the incorrect option:

A. Eye of octopus, bat and man

B. Forelimbs of man, bat and cheetah

C. Brain of bat, man and cheetah

D. Heart of bat, man and cheetah

Answer: A

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196. The similarity ofbone structure in the forelimbs of many vertebrates is an example of

A. Adaptive radiation

B. Homology

C. Convergent evolution

D. Analogy

Answer: B

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197. Variations caused by mutation, as proposed by Hugo de Vries, are

A. random and directional

B. random and directionless

C. small and directional

D. small and directionless

Answer: B

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198. Match the hominids withtheir correct brain size:

(A)	Homo habilis	(i)	900 cc
(B)	Homo neanderthalensis	(ii)	1350 cc
(C)	Homo erectus	(iii)	650-800 cc
(D)	Homo sapiens	(iv)	1400 cc

A. $\begin{matrix} A & B & C & D \\ iii & i & iv & ii \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ iii & ii & i & iv \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ iii & iv & i & ii \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ iv & iii & i & ii \end{matrix}$

Answer: C

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