DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 6

Topic :- Evolution

1 **(d)**
The period of approximately 0.6 billion years that existed between the formation of the gaseous clouds (about 4.6 billion years ago) and the formation of earth's crust is called Azoic era during which no life existed.

2 **(c)**
First life originated in water (sea)

3 **(d)**
The Synthesis of amino acid from methane, ammonia, hydrogen and water vapour in UV-radiation or electric discharge was experimentally proved by **Stanley Miller.**

4 **(b)**

Homologous organs	**Analogous organs**
Similar in anatomy	Dissimilar in anatomy
Doing dissimilar functions	Doing similar functions
Develop in related animals	Develop in unrelated animals
Inherited from a common ancestor	Not inherited from common ancestor
Similar developmental pattern	Developmental pattern is not similar
Similar structure and origin	Dissimilar in structure and origin

5 **(c)**
Echidna (spiny anteater)and Ornithorhynchus (platypus) are the connecting links between **reptiles** and **mammals**.

6 **(d)**
Homeostasis is keeping the internal enviroment of the body constant. It is necessary for normal life processes.

7 **(a)**

Homo habilis is also called handy or tool maker man. Mary Leaky and LBS Leaky discovered the fossils of *Homo habilis* from Pleistocene rocks of Olduvai Gorge in East Africa. His cranial capacity was 680-720 cc. Their teeth were like that of modern humans

8 **(c)**

Genetic drift is also known as the Sewall Wright effect (named after its discovers)

9 **(c)**

In the first living body, basic organic molecule formed was RNA that served as the genetic material.

Enzymatic activities of RNA molecules are constantly being discovered, but no enzymatic activity has ever been attributed to DNA. Further, ribose is much more readily synthesized than deoxyribose under stimulated prebiotic conditions. A selective advantageous RNA molecule would be one that directs the synthesis of protein that accelerates the replication of particular RNA (*i.e.*, RNA polymerase)

10 **(a)**

A-Shrews. B-Viviparous

11 **(a)**

Ontogeny repeats phylogeny comes under **biogenetic law**.

12 **(c)**

Modern Concept of Evolution Modern concept of evolution is the synthesis of Darwin's and Hugo de Vries theory also called synthetic theory of evolution. *Modern concept of evolution includes the following steps*

(i) Genetic variations in population
(ii) Isolation
(iii) Heredity
(iv) Natural selection
(v) Speciation (origin of new species)

The modern theory is a result of number of scientist namely T Dobzhonsky, RA Fisher, JBS Haldane, Sewall Wright Ernst Mayer, GL Stebbins

Stebbins in his book 'Progress of organic evolution' discussed the synthesis theory of evolution

13 **(d)**

Different species developed along the pattern, set by their common ancestors gives rise to homologous organs

14 **(c)**

A-900cc, B-Omnivorous

15 **(b)**

Cranial Capacities of Apes and Man

Primates	**Cranial capacities (in cubic centimetris)**
Chimpanzee and gorilla	325-510 cc
Australopithecus	500 cc
Homo habilis	700 cc

Java Ape man	800-1000 cc
Peking man	850-1100 cc
Heidelberg man	1300 cc
Neanderthal man	1300-1600 cc
Cro-Magnon man	1650 cc
Living Modern man	Average about 1450 cc

16 **(b)**

Embryological Evidences in Plants Plants like *Acacia*, the leaves are compound but their seedling have simple leaves. This suggest their evolutionary relationship (biogenetic law), Haeckel's biogenetic law states that ontogeny repeats phylogeny. Ontogeny is the life history of an organism, while phylogeny is the evolutionary history of the race of that organism. In other words an organism repeats its ancestral history during its development

17 **(b)**

Name	Discovered the Fossil
Edward Lewis	*Ramapithecus*
Donald Johanson	*Australopithecus* (Lucy)
LSB Leaky	*Homo habilis*
C Fuhlrott	Neanderthal man

18 **(c)**

Daying or extinction of an individual or species is not an example of evolutionary change. Rather, it is the way through which the valuable genes are removed out of the gene pool

19 **(c)**

Darwin travelled in **HMS Beagle** ship.

20 **(a)**

Flippers of the seal are the modified from of forelimbs. These are the examples of homologous organ

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**D**	**C**	**D**	**B**	**C**	**D**	**A**	**C**	**C**	**A**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**A**	**C**	**D**	**C**	**B**	**B**	**B**	**C**	**C**	**A**