BIOLOGY

BOOKS - ARIHANT NEET BIOLOGY (HINGLISH)

ORIGIN OF LIFE

Check Point 10 1

1. The most widely accepted view for origin of life is

A. Biogenesis

B. Abiogenesis

C. Biochemical origin

D. Biopoiesis

Answer: C

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2. According to the Big Bang theory, the gaseous clouds, which created solar system are

A. Hydrogen and helium

B. Solar nebula

C. Milky way

D. Methane and ammonia

Answer: B

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3. Who discovered solar nebula?

A. Abbe Lemaitre

B. Kant

C. Louis Pasteur

D. None of these

Answer: B

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4. The branch of science which deals with deals with the study of universe is called

A. Universology

B. Evolutionary biology

C. Cosmology

D. Astrology

Answer: C

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5. The reason that primitive atmosphere of the earth did not show any degradationis

A. Reducing nature

B. High temperature

C. UV rays

D. Rainfall

Answer: A

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6. In recent atmosphere, which of the following is absent

A. Free O_2

B. Free H_2

C. CO_2

D. H_2O

Answer: B

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7. The formation of living and non-living world simultaneously is the main feature of

A. Theory of panspermia

B. Theory of cosmozoic origin

C. Theory of catastrophism

D. Theory of abiogenesis

Answer: B

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8. Which one of the following theories is also called theory of abiogenesis?

A. Theory of special creation

B. Theory of spontaneous generation

C. Theory of cosmozoic origin

D. Theory of catastrophism

Answer: B

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9. Fransisco Reddi performed his experiment to prove theory biogenesis in the year

A. 1668

B. 1767

C. 1860

D. 1890

Answer: A

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10. Fransisco Reddi performed his experiment to prove theory biogenesis in the year

A. Lazzaro Spallanzani

B. Von Helmont

C. Francisco Reddi

D. Louis Pasteur

Answer: D

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Check Point 10 2

1. Modern theory of origin of life is also known as

A. Naturalistic theory

B. Abiogenesis

C. Physico-chemical evolution

D. All of the above

Answer: D

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2. The term given by Darwin and having same meaning as prebiotic soup is

A. Warm little pond

B. Cold ocean

C. Postbiotic soup

D. Both (a) and (b)

Answer: A

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3. According to deep sea vents hypothesis, primitive sea was

A. Acidic

B. Neutral

C. Alkaline

D. Both (a) and (b)

Answer: C

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4. As the earth started condensing which of the following passed to core of the earth?

A. Silicon

B. Aluminium

C. Nickel

D. All of these

Answer: C

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5. The energy to allow chemogenic reactions came from

A. UV rays

B. Electric discharge from lightning

C. Cosmic rays

D. All of the above

Answer: D

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6. In primitive atmosphere ATP was formed when adenine combined with

A. Monophosphate

B. Diphosphate

C. Triphosphate

D. Polysulphate

Answer: C

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7. How long the Miller and Urey expriment was carried

A. 1 week

B. 2 week

C. 2 days

D. 1 month

Answer: A

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8. The product which was observed and obtained during Miller's experiment was

A. Turbid red liquid

B. Ammonia

C. Ribosomes

D. Valine

Answer: A

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9. Which of the following type of sugar was present in turbid red liquid?

A. Straight chain sugars

B. Pentoses

C. Hexoses

D. All of these

Answer: D

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10. Apart from miller and Urey, who produced complex compounds from simpler compounds to prove theory of physico-chemical evolution?

A. Fox

B. Dobzhansky

C. Calvin

D. Both (a) and (c)

Answer: D

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Check Point 10 3

1. The proteinoid colloidal aggregate obtained by Sydney Fox are

A. Coacervates

B. Microspheres

C. Coacervates droplets

D. Colloids

Answer: B

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2. Coacervates divide by the process of

A. Spore formation

B. Binary fission

C. Budding

D. None of the above

Answer: C

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3. The membrane of which of the following is devoid of fatty acids?

A. Microsphere

B. Coacervates

C. Prebiotic aggregates

D. Eukaryotes

Answer: A

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4. Protocells were similar to the present day

A. Virus

B. Eukaryotes

C. Mycoplasma

D. Both (a)and (c)

Answer: D

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5. The first living organism had following mode of nutrition

A. Photoautotrophic

B. Chemoautotrophic

C. Chemoheterotrophic

D. aerobic photoautotophic

Answer: C

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6. The organism which obtained energy by the process of fermentation are

A. Chemoautotrophs

B. Photoautotrophs

C. Aerobic photoautotrophs

D. Parasites

Answer: A

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7. The fossilised microbial mats which consist of filamentous prokaryotes and trapped sediments are

A. Stromatolites

B. Sulphur bacteria

C. Saprophytes

D. None of the above

Answer: A

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8. Which of the following are considered as molecular fossils?

A. Ribozymes

B. Nucleotides

C. Amino acids

D. Meteorites

Answer: A

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9. Fossil records usually exhibit

A. Microevolution

B. Macroevolution

C. Megaevolution

D. Quantum evolution

Answer: B

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10. The polynucleotides were found in which of the following meteorites which fell in Ukraine?

A. Muchison meterite

B. Mighi meteorite

C. Meteorite

D. Both (a)and (b)

Answer: D

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Chapter Exercises Taking It Together A Assorted Questions Of The Chapter For Advanced Level Practise

1. Big bang theory was proposed by

A. Darwin

B. Lemaitre

C. Miller

D. Pasteur

Answer: B

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2. The early belief of the spontaneous origin of life was disproved by

A. Louis Pasteur

B. R Koch

C. Lederberg

D. C Darwin

Answer: A

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3. The coacervate hypothesis was given by

A. Al Oparin

B. Haldane

C. Sydney Fox

D. Darwin

Answer: A

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4. The origin of universe occurred about

A. 15-20 billion years ago

B. 30-40 billion years ago

C. 40-50 billion years ago

D. 50-60 billion years ago

Answer: A

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5. Our galaxy was originated about

A. 100 billion years ago

B. 1 billion years ago

C. 1000 billion years ago

D. 100 million years ago

Answer: A

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6. The presence of salts (NaCl and others) in animal body fluid gives an inference that life originated in the

A. Rainwater

B. Primitive ocean

C. Salt solutions

D. None of these

Answer: B

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7. The first genetic material was most likely to be

A. DNA polymer

B. Primitive ocean

C. DNA oligonucleotide

D. RNA polymer

Answer: D

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8. The experiment to show the production of mice in 21 days from carried out by

A. Jean Baptiste von Helmont

B. Louis Pasteur

C. Aristotle

D. Francisco Reddi

Answer: A

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9. The spark-discharge apparatus to test chemical evolution of life was designed by

Or

The first experiment on chemical evolution and origin of life was carried out by

A. Urey and Miller

B. Oprain and Haldane

C. Jacob and Monod

D. Dixon and Jolly

Answer: A

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10. Who did an experiment to prove that " The organic compounds were thers of life "?

A. Stanley Miller and HC Urey

B. Melvin Calvin

C. Darwin and Lamarck

D. Sydney Fox

Answer: A

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11. The term microsphere was given by

A. Sydney Fox

B. Haldane

C. Miller

D. Oparin

Answer: A

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12. The oldest eukaryotic fossil is :

A. 3.5 billion years old

B. 2.5 billion years old

C. 1.5 billion years old

D. 0.5 billion years old

Answer: C

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13. Life originated in the

A. Precambrian

B. Mesozoic

C. Coenozoic

D. Proterozoic

Answer: A

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14. The age of 'Big-Bang' is likely to be of the orderof :

A. 10^{10} yr

B. 10^{20} yr

C. 10^{5} yr

D. 10^{2} yr

Answer: A

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15. Most biologists agree that the first cells on the Earth developed in the :

A. In the ocean

B. In soil

C. On mountain

D. In rock

Answer: A

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16. The founder of 'theory of catastrophism' is :

A. Oparin

B. Haldane

C. G Cuvier

D. Darwin

Answer: C

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17. The theory of abiogenesis is also known as

A. Germplasm theory

B. Theory of spontaneous generation

C. Theory of panspermia

D. Oparin-Haldane theory

Answer: B

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18. The idea of spontaneous generation was supported by

A. Anaximus

B. Anximander

C. Empedocles

D. Pasteur

Answer: B

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19. The idea of spontaneous generation was refuted by

A. F Reddi

B. L Pasteur

C. L Spallanzani

D. All of these

Answer: D

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20. Who proposed the Theory of Cosmozoic Origin?

A. Richter and Arrhenius

B. Urey and Miller

C. Haeckel

D. Lamarck

Answer: A

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21. A prokaryotic cell differs from eukaryotic cell due to the lack of

A. Nucleolus

B. Nuclear membrane

C. Membrane bound cell organelles

D. All of the above

Answer: D

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22. A coacervate is a

A. Nucleoprotain in nature

B. Mixture of ammonia and water

C. Colloidal suspension in water

D. Mixture of contemporary bioprateins

Answer: D

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23. The primitive earth earth conditions were experimentally shown by

A. Urey and Miller

B. Miller

C. Oparin

D. Both (a) and (b)

Answer: D

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24. Which of the following planets is supposed to have life?

A. Mars

B. Mercury

C. Uranus

D. Pluto

Answer: A

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25. The oldest fossil cells reseble:

A. Heterotrophic bacteria

B. Autotrophic bacteria

C. green algae

D. red algae

Answer: A

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26. Which of the following theories accepted that the life originated from pre-existing life?

A. Abiogenesis

B. Biogenersis

C. Special creation

D. Oprin-Haldane theory

Answer: B

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27. Louis Pasteur provided proof in support of biogenesis in

A. 1862

B. 1872

C. 1882

D. 1892

Answer: A

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28. The solar system was created approximately

A. 4.5 billion years ago

B. 3.3 billion years ago

C. 2.3 billion years ago

D. 2.0 billion years ago

Answer: A

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29. Under certain condition scientist have obtained cell-like structures. These are known as

A. Microbes

B. Protists

C. Coacervates droplets

D. Prebiotic soup

Answer: C

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30. The first organisms to appear on earth were more like plants because

A. Plants are simpler

B. Plants are more

C. Plants do photosynthesis

D. None of the above

Answer: C

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31. Which of the following appeared later when the earth cooled down to a temperature below 100 C?

A. Lithosphere

B. Atmosphere

C. Stratosphere

D. Hydrosphere

Answer: D

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32. According to Oparin and Haldane, transformation of lifeless chemicals into living matter extended

A. 1 billion years

B. 2 billion years

C. 3 billion years

D. 4 billion years

Answer: C

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33. Chemical theory for origin of life was given by

A. Stanley Miller and HC Urey

B. Spallanzani

C. Oparin and Haldane

D. Louis Pasteur

Answer: C

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34. The age of earth is about

A. 4.6 billion years

B. 10 billion years

C. 3.0 billion years

D. 20 billion years

Answer: A

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35. The category of molecules produced by th eMiller -Urey experiment was:

A. Organic monomers

B. Inorganic monomers

C. Organic polymers

D. Inorganic polymers

Answer: A

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36. The energy used in the Miller-Urey experiment was obtained through

A. Atomic radiation

B. Electric spark

C. Photoenergy

D. Mechanical energy

Answer: B

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37. The origin of life on Earth can be traced to :

A. Microorganisms from other planets

B. Some compounds formed on primitive earth

C. God's will

D. Protista

Answer: B

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38. An alternative name of cosmozoan theory is

A. Panspermia

B. Big Bangtheory

C. Abiogenic theory

D. Biogenesis

Answer: A

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39. The oldest known fossil cells are about the size of :

A. Ribosomes

B. Modern prokaryotes

C. Human skin cells

D. Amoeba

Answer: B

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40. A compound important in prebiotic evolution was

A. SO_2

B. CH_4

C. NO

D. SO_3

Answer: B

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41. The age of oldest rock is about

A. 3.3-3.6 billion years

B. 4.2-4.6 billion years

C. 4.6-5.6 billion years

D. 5.6-7.0 billion years

Answer: A

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42. For origin of life, the most important condition is the presence of :

A. O_2

B. N_2

C. CO_2

D. H_2O

Answer: D

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43. Spontaneous generation of flies from rotting meat was disproved by :

A. Charles Darwin

B. Louis Pasteur

C. Francisco Reddi

D. Helmont

Answer: C

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44. Spontaneous generation of bacteria from decomposing broth was disproved in 1860 by

A. F Reddi

B. L Pasteur

C. xd

D. L Spallanzani

Answer: B

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45. Which of the following evolved first?

A. Coacervates

B. PPLO

C. Viroids

D. Mycoplasma

Answer: A

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46. The water of primitive ocean during the time of origin of life has been called 'hot dilute soup of oceanic substances' by:

A. Haldane

B. Miller

C. Oparin

D. Sydney Fox

Answer: A

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47. Life was created by some supernatural power.This theory is:

A. Spontaneous generation

B. spore theory

C. Special creation theory

D. Oparin -Haldance theory

Answer: C

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48. Who said that the organisms develop from pre-existing organisms?

A. Louis Pasteur

B. Aristotle

C. Al Oparin

D. Haldane

Answer: A

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49. An important feature of the early atmosphere was the virtual absence of

A. N_2

B. CO_2

C. HCN

D. O_2

Answer: D

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50. There is not life on moon because there is no

A. water

B. Nitrogen

C. Carbon

D. Silicate

Answer: A

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51. Dominant flora 2.5 billion years ago was

A. Green algae

B. Blue-Green algae

C. Red algae

D. brown algae

Answer: B

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52. First photosynthetic organisms to appear on earth were

A. Bacteria

B. Green algae

C. Funaria

D. Pteridium

Answer: A

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53. Some complex inorganic and organic compounds in the hot sea aggregated in different combination forming

A. Coacervates

B. Postcell

C. Pre-cell

D. Protoplasm

Answer: A

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54. Which of the following modes of nutrition is most primitive?

A. Chemoautotrophs

B. Chemoheterotroph

C. Anaerobic photoautotroph

D. Aerobic photoautotroph

Answer: B

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55. Stromocites, the first found fossils are

A. plantae

B. virus

C. PPLO

D. cyanobacteria

Answer: D

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56. Which of the folowing is known as oldest living fossil?

A. Eubacteria

B. Archaebacteria

C. Protozoa

D. Eukaryotes

Answer: B

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57. It is believed that the first organisms, which inhabited earth's surface were

A. Mixotrophs

B. Chromotrophs

C. Heterotrophs

D. Autotrophs

Answer: B

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58. Which of the following is a nucleoproteinoid molecule havinng free-living gene?

A. Protobionts

B. Microspheres

C. Coacervates droplets

D. Cephalin

Answer: A

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59. Bacteria that live around deep sea, hot water vents obtain energy by oxidising inorganic hydrogen sulphide. They use this energy to build organic molecules from carbon obtained from the carbon dioxide in the seawater. These bacteria are

A. Photoheterotrophs

B. Chemoautotrophs

C. Photoautotrophs

D. Chemoheterotrophs

Answer: B

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60. Which of the folliwing is an example of theory of spontaneous generation?

A. Frog could arise from moist soil

B. Frog could arise from parent frog

C. Frog could arise from fishes

D. None of the above

Answer: A

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61. Which of the following theory accepted that microorganisms come only from other microorganisms come only from other microorganisms?

A. Theory of abiogenic origin

B. Theory of abiogenesis

C. Theory of biogenesis

D. Theory of cosmozoic origin

Answer: C

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62. Universe originated about 15 billion year ago by

A. A thermonuclear explosion

B. Fusion

C. Gravity

D. Destruction of atmosphere

Answer: A

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63. The solar system was created by the collapse of solar nebula. Solar nebula was the

A. Gaseous cloud

B. Solid ball of soil

C. Liquid of water and minerals

D. Solid iron

Answer: A

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64. The reason of presence of free oxygen into the earth's atmosphere, whereas there was no free oxygen at the time of origin of life is

A. Catalytic activity of animals

B. Photosynthetic activity of plants

C. Heating of the earth

D. None of the above

Answer: B

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65. The complex organic compounds that may have first evolved in the direction of origin of life on earth, may have been

A. Proteins and amino acids

B. Proteins and nucleic acids

C. Urea and nucleic acids

D. Urea and amino acids

Answer: B

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66. There was no degradation of any organic compounds arising in primitive earth because

A. Atmosphere was absent

B. Atmosphere was highly reducing

C. Atmosphere was highly oxidising

D. None of the above

Answer: A

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67. The first living organism obtainded energy by

A. Fermentation

B. Oxidative phosphorylation

C. Photophosphorylation

D. Pentose phosphate pathway

Answer: A

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68. Terrestrial or abiogenic origin of life interprets that the life arose

A. By a series of sequential chemical reactions

B. from pre-existing life

C. Spontaneously from lifeless matter

D. None of the above

Answer: C

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69. Which of the following theories explained that the life originated on earth from the organic molecules that wee produced early in the history of earth?

A. Theory of abiogenic origin

B. Theory of cosmozoic origin

C. Theory of panspermia

D. Theory of biogenesis

Answer: A

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70. Coacervates containing nucleoprotein and surrounded by several nutritive substances and covered by a surface membrane represents

A. Protocells

B. Liposome

C. Pre-Cells

D. Microphere

Answer: A

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71. Which of the following theories is related with the statement that spores or seeds (sperm)havind extra terrestrial origin might have infected the barren earth at the time of its origin?

A. Theory of panspermia

B. Theory of terrestrial origin

C. Theory of spontaneous generation

D. Theory of special creation

Answer: A

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72. Which of the following has replaced methane of the primitive atmosphere as the major carbon containing compounds of the present day earth's atmosphere?

A. Carbon dioxide

B. Coal

C. Carbon monoxide

D. Hydrocarbon

Answer: A

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73. Which of these did Stanley Miller place in his experimental system to show that the

organic molecules could have arisen from the inorganic molecules on the primitive earth?

A. The primitive gases

B. Purines and pyrimidlines

C. Microphores

D. Protocells

Answer: A

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74. Evolution of the $DNA \rightarrow RNA \rightarrow$ protein system was a milestone because the protocell:

A. Could not reproduce

B. Was a heterotrophic fermenter

C. Pass on genetic information

D. Needed ATP for requirement of energy

Answer: C

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75. Miller synthesised simple amino acids from which one of the following mixture in his experiment?

A. H_2,O_2, N_2,(2:1:2) AND H_2O

B. CH_4, NH_3, $H_2(2:1:2)$ and $H_2(O)$

C. H_2, O_2N_2, $(1:2:1)$ and H_2O

D. CH_4, NH_3, $H_2(1:2:1)$ and H_2O

Answer: B

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76. The energy source for the creation of the first organic compounds came from

A. Electronic discharge

B. UV light

C. High temperature from volcanoes

D. All of the above

Answer: D

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77. As per theory of chemosynthetic generation, what was the sequence of origin of life?

A. Amino acids-Nucleoproteins_Chlorophyll

B. Nucleoproteins-Amino acids- Chlorophyll

C. Nucleoproteins- Chlorophyll-Amino acids

D. Amino acids-Chlorophyll- Nucleoproteins

Answer: A

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78. Which of the following is the chief reason showing that the protocell was probably a fermenter?

A. It did not have any enzymes

B. The atmosphere did not have any exygen

C. Atmosphere was oxidising

D. None of the above

Answer: B

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79. Formation of which complex molecules was noticed by Urey and Miller when they subjected substances like NH3,CH4 and H2O to electric discharge

A. H_2SO_4

B. Amino acids

C. Hydroponics

D. HCN

Answer: B

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80. During the origin and evolution of life, key biological compounds were progressively synthesised in ocean with the help of energy obtained from

A. Combustion of certain compounds

B. UV light only

C. Lightning and ultraviolet light

D. Lightning only

Answer: C

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81. The age of oldest sedinentary rock is about

A. 2.7-3.2 billion years

B. 3.2-4.2 billion years

C. 4.2-5.2 billion years

D. 5.2-6.2 billion years

Answer: A

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82. Which of the following in not found in a lipid coacervate droplet or a proteinoid mecrosphere?

A. The ability to grow

B. A nucleus

C. A two-layer boundary

D. Division by pinching in two layers

Answer: B

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83. What prokaryotic adaptation accurred during the oxygen revolution and opended up the possibility for energhy demanding multicelluar life forms?

A. Electron transport systems

B. Anaerobic fermentation

C. Acrobic respiration

D. Photosynthesis

Answer: C

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84. Amino acids and polynucleotides similar to DNA was found in Mighi Meteorite and Marchison Meteorite by space biologists. In which country, these Meteorites were fell in 1889?

A. India

B. Pakistan

C. Ukraine

D. America

Answer: C

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85. Stanley L Miller conducted experiments befor 1953 on prebiotic earth environment using special apparatus. The primary surprising products wee

A. Peptides

B. Amino acids

C. nucleotides

D. Simple sugars

Answer: B

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86. Most probably now, no origin of life is taking place in the way as occurred on primordial earth because

A. Free oxygen may react with most intremediate

B. Free hydrogen is absent

C. Water vapour is absent

D. Man is not interested

Answer: A

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87. The discovery of virus has placed the problemof the origin of life in new light and it is believed that the higher forms of life have descended from

A. Free-living viruses

B. Free-living bacteria

C. Free-living Protozoa

D. Free-living Metazoa

Answer: A

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88. Which of the following statements does not explain the usefulness of study of the origin and evolution of life?

A. The human species is most evolved, so no harm can be done to us

B. We know that life can exist anywhere else as well

C. We learn that human beings have the responsibility to conserve nature

D. We learn about the unity and diversity of living organisms

Answer: A

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89. The heterotrophic hypothesis helps us to understand

A. Definition of the term life

B. Difference between living and non-living

C. Increasing complexity moving from the atom to the simple molecule to complex proteins to living organisms, populations, societies and communities

D. All of the above

Answer: D

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90. In Spallanzani's experiment, one set of flasks had access to air through holes in the cork and the other set did not . In the set having access to air, the contents showed abundant growth of microorganisms. What inference would you drew form this experiment?

A. Spontaneous generation does not need air

B. Spontaneous generation requires contact with air

C. The contents of the flask had not been boiled throughly

D. Spontaneous generation is impossible, if there is no spore source like air

Answer: D

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91. Biologists believe that the current DNA $\rightarrow$ RNA $\rightarrow$ Protein system is the result of a long period evolution because

A. DNA Replication is complicated but relatively error free and the current systemis very complexand precise

B. The transcription of DNA to mRNA and transaltion of mRNA into proteins consists of many steps

C. Evidence indicates that RNA preceded DNA as the genetic material

D. All of the above

Answer: D

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92. Which of the Following discoveries would force scientists to revise their present theories regarding the origin of life on earth?

A. The earth is found to be billion years old, rather than 4.6 billion

B. Polypertides can catalyse replication of small RNA molecules

C. There was a lot of oxygen gas in the atmosphere 4 billion years ago

D. Minerals in lava catalyse formation of polypeptides from amino acids.

Answer: C

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93. Temperature in the interior of the sun is $200000000^{\circ}C$, the reason for this high temperature is

A. Various ex othermic reactions are taking place

B. Fusion reactions converting hydrogen of sun to helium

C. Collision of particles releasing energy

D. None of the above

Answer: B

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94. Pasteur's experiments and similar ones that followed convinced most people, that spontaneous generation of life did not happen because

A. Pasteur did not happen because

B. Pasteur's swan-neeked flasks ruled out the objection that spoiled air could have

contaminated his experiments

C. Pasteur was extremely meticulous

D. Pasteur used very fine mesh screens to cover his flasks

Answer: B

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95. Mark the correct statement.

A. L Spallanzani stated that air carried microorganisms

B. Father Saurez discarded the view of special creation

C. L Pasteur did his experiments on flesh

D. F Reddi put forward the theory of special creation

Answer: A

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96. In the ancient atmosphere, free nitrogen, exygen and carbon dioxide were not present because

A. of the large amount of hydrogen and high temperature

B. carbon would have combined with hydrogen to form methane

C. any free oxygen would have combined with iron, silicon,

D. All of the above

Answer: D

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97. An evolving coacervate- like system would have needed a controlled and constant source of energy for

A. Maintaining their organisation

B. making large complex molecules

C. organising these molecules into structural patterns

D. All of the above

Answer: D

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98. In What respect, the heterotroph hypothesis differs from the early ideas of spontaneous generation?

A. It assumed that spontaneous generation was a continuous precess that could

happen even tody

B. The idea of spontaneous generation maintained that complex organisms could arise suddenly from none -living matter

C. The heterotroph hypothesis assumes that a very simple organism evolved slowly from non-living matter and this occurred in the primitive environmental conditions

D. In all of the above conditions

Answer: D

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99. Which of the following is a true statement?

A. The primitive atmosphere had 20% oxygen, just like it is today

B. The reducing primitive atmosphere contributed to the origin of life and the

oxidising one today would hinder it

C. The primitive atmosphere was an oxidising one and today is reducing

D. Ultraviolet radiation would be absorbed by ozone layer present in primitive atmosphere

Answer: B

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100. Which of these is a true statement?

A. Eukaryotes evolved before prokaryotes

B. Prokaryotes evolved before eukaryotes

C. The true cell evolved before the protocell

D. Prokaryotes didn't evolve until 1.5 billion years ago

Answer: B

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101. In primordial atmosphere, when the living organism cvolved the respiration process was

A. Aerobic as it released more energy

B. Anaerobic because early atmosphere contained little or no oxygen

C. Aerobic as it was more complex

D. Anaerobic as it released more energy

Answer: B

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102. Which of the following is a factor against the theory of panspermia?

A. Non-conductive conditions of extremely low temperature and lack of atmosphere in interplanetary space to life

B. Very high flux of cosmic and ultraviolet radiation from the sun

C. Utter dryness in interplantary space

D. All of the above

Answer: D

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103. Which of these gives a possible sequence of organic chemicals prior to the protocell?

A. Inorganic gases, amino acids, polypeptide, microsphere

B. Inorganic gases, nucleotides, nucleic acids, genes

C. Water, salts, protein, oxygen

D. Both (a) and (b)

Answer: D

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104. Pasteur succeeded in disproving the spontaneous generation theory because

A. He was lucky

B. He was ingenious in drawing out the neek of the glass flasks so as to provide access to air but not to microorganisms

C. Of the fact that sample of yeast taken by him was dead

D. Of the clean surroundings of his laboratory

Answer: B

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105. Theory of Special Creation states that

A. God is the creator of life

B. origin of life is supernatural or vitalistic event at a particular time in the past

C. Life is immutable and has not changed ever since its origin

D. All of the above

Answer: D

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106. Which of the following is true about cosmozoan theory?

A. Life is coeternal with matter without any beginning

B. Origin of life is extraterrestrial

C. Life originated once or several times in various parts of galaxy

D. All of the above

Answer: D

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107. Which of the following explanations accounts for the statements.'It has yet not been possible to create life,?

A. Most molecules are known except a few

B. Nature and molecular organisation is complex and not completely understood

C. All molecules of life have not been identified as yet

D. Some molecules are organic and others are inorganic in nature

Answer: B

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108. Biologists are interested in the role of liposomes in the origin of life. They think that liposomes might show how the

A. Raw materials for organic compounds are formed

B. Formation of organic polymers, such as carbohydrates and RNA were catalysed

C. primitive cell membranes have form,grow and divide

D. energy was supplied for the metabolisro of the first simple cells

Answer: C

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109. Life cannot originate from the inorganic material at present becauuse of presence of

A. Very low atmospheric temperatue

B. High degree of environmental pollution

C. Very high amount of oxygen in atmosphere

D. Absence of raw materials

Answer: C

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110. Which of the following is the strongest evidence that prokaryotes evolved before eukaryotes?

A. Meteorits that have struck the earth

B. Abiotic experiments that constructed liposomes in the laboratory

C. Liposomes look like prokaryotic cells

D. The oldest fossilised cells resemble prokaryotes

Answer: D

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111. How is iological evolution distinct from the chemical evolution?

A. Biological evolution preceded chemical evolution during origin of life

B. Not all organisms on earth undergo biological evolution

C. Biological evolution is not affercted by mutation

D. Biological evolution happens when organisms could replicate

Answer: D

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112. Why do scientists think that the RNA and not DNA, was the first gene?

A. RNA can store information and acts as an enzyme

B. DNA copies itself but cannot store information

C. DNA did not exist in early cells

D. RNA sometimes forms a double helix

Answer: A

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113. What is the difference between spontaneous generation and biogenesis?

A. Biogenesis supposes that the non-living materials can produce life, while spontaneous generation follows the idea that living things come only form the other living things

B. Spontaneousgeneration and biogenesis both support the theory that non-living materials are the source of living organisms

C. Spontaneous generation proposes that the non-living materials can produce life, biogenesis follows the idea the living things come only from other living things

D. Spontaneous generation applies only to plants and how they produce life, while biogenesis applies to animals and how they produce life

Answer: C

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114. Which hypothesis on the origin of life states thjat the proteins, lipids and other complex organic molecules are formed when

energy from the sun and other sources causes chemical reactions among gases in earth's prehistoric atmosphere?

A. Self-replicating molecues

B. Biogenesis

C. Miller and Urey's experiment

D. Spontaneous generation

Answer: C

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115. The endosymbiotic theory states that.....,one piece of evidence supporting this theory is the fact that ...

A. The first hereditary material was RNA, mitochondria and chloroplasts have heredity based on RNA

B. The genomes of complex animals came in part from the genomes of invading pathogens, the human genome contains

the complete genomes of 120 viruses and 10 bacteria

C.

D.

Answer: C

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Chapter Exercises Medical Entrance Special Format Questions B Statement Based Questions

1. Which of the following is correct about microspheres?

I. Protobionts made of polypeptides are called microsphers.

II.They show division by binary fission.

III.Viruses are exactly similar to the microspheres.

IV.Bacteria are exactly similar to the microsphers.

A. I and III

B. I and II

C. III and IV

D. I,II and III

Answer: B

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2. The theory of spontaneous generation of life was frfuted by ltbr I.Frencisco Reddi

II.Louis Pasteur

III.Lazzaro Spallanzani

IV.Von Helmont

A. only III

B. II and III

C. III and IV

D. I,II and III

Answer: D

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3. The atmosphere of the earth at the time of origin of life was

I.reducing

II.with lack of free oxygen

III. oxidising

IV.similar to recent atmosphere

A. I and II

B. III and IV

C. II and III

D. II and IV

Answer: A

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4. During primitive times, oceans contained

I.Fishes

II. Algae

. III.water

IV. Ammonia, methane and minerals

A. II and III

B. I and IV

C. I and II

D. III and IV

Answer: D

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5. In Francisco Reddi's experiment

I.Maggots developed in uncovered jar.

II. Maggots developed in jar covered by muslin cloth.

III. Maggots developed in covered jar. IV. Maggots did not develop at all.

A. only IV

B. only I

C. I and II

D. only III

Answer: C

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6. According to Oparin, which one of the following was not present in the primitive atmospehre of the earth?

A. only I

B. only IV

C. II and IV

D. II and III

Answer: D

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7. Which of the following gives a possible sequence of organic chemicals prior to protocell?

I. Inorganic gases, amino acids, polypeptides, microsphere.

II. Inorganic gases, nucleotides, nucleic acids, genes.

III. Water, salts, proteins, oxygen.

IV. Protein, salts, oxygen, water

A. I and II

B. only III

C. I and III

D. III and IV

Answer: C

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8. The main difference between prokaryotic and eukaryotic cell is that in the prokaryotic cell there is no

I.Nucleus with a nuclear membrane.

II. Mitochondria and chloroplasts.

III. Cell wall.

IV. Genetic material.

A. only I

B. only II

C. I and II

D. I and III

Answer: C

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Chapter Exercises Medical Entrance Special Format Questions B Match The Columns

1. Match the column

Column I	Column II
A. Origin of life	1. Al Oparin theory
B. Origin of species	2. Suarez
C. Special creation	3. Darwin

A. A-2,B-1,C-3

B. A-3,B-2,C-3

C. A-1,B-2,C-3

D. A-1,B-3,C-2

Answer: D

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2. Match the following columns

	Column I		Column II
A.	Cyanobacteria	1.	The first organisms to give of oxygen
B.	Chemoheterotrophs	2.	Organisms that can grow with or without oxygen
C.	Facultative anaerobes	3.	Obtained energy from fermentation of organic molecules
D.	Obligate anaerobes	4.	Organisms that are poisoned by oxygen

A. A-1,B-3,C-2,D-4

B. A-1,B-2,C-3,D-4

C. A-2,B-3,C-1,D-4

D. A-2,B-1,C-3,D-4

Answer: A

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3. Match the following columns

Column I	Column II
A. Stanley Miller	1. Coined the term coacervate
B. JBS Haldane	2. Spark discharge apparatus
C. AI Oparin	3. Prebiotic soup

A. A-1,B-2,C-3

B. A-2,B-3,C-1

C. A-3,B-2,C-1

D. A-1,B-3,C-2

Answer: B

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Chapter Exercises Medical Entrance Special Format Questions B Assertioni And Reason

1. Assertion : Primitive atmosphere was formed by the lightest atoms.

Reason : The primitive atmosphere was reducing in nature.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: B

2. Assertion: Each coacervate is composed of marcromoecules.

Reason: Coacervates were the first living cell.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: C

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3. Assertion: Protocells represented the beginning of life.

Reason: Protocells gave rise to prokaryotes.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: B

4. Assertion: They were cyanobacteria- like organisms, which in ancient time added oxygen to the atmosphere. Reason: Cyanobacteria were photoautotrophic.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of

Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: B

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5. Assertion:After the appearance of oxygen in the atmosphere, methane and ammonia began to disappear.

Oxygen is involved in forming ozone layer.

A. Both Assertion and Reason are true and Reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: B

Chapter Exercises Medical Entrance Gallery C Collection Of Questions Asked In Neet Various Medical Entrance Exams

1. 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. (a) I,II,III and IV

B. (b) I,III,II and IV

C. (c) II,III, I and IV

D. (d) II, III, IV and I

Answer: C

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2. Following are the statements regarding the origin of life

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

anaerobes

(B) 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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3. According to the theory of spontaneous generation :

A. (a) Life originated from outer space

B. (b) Life originated from decaying and rotting matter like straw, mud, etc

C. (c) life came from pre-existing life

D. (d) Life came from both living and non-living matter

Answer: B

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4. Oparin and Haldane proposed:

A. (a) theory of natural selection

B. (b) that mutation caused speciation

C. that migration affects genetic equilibrium

D. (d) that the first form of life could have come from pre-existing non-living organic molecules

(e) that evolution of life forms had been driven by use and disuse of organs

Answer: D

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5. In miller's experiment the following was not part of the starting chemicals

A. H_(2)S`

B. H_2

C. NH_2

D. CH_4

Answer: A

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6. Which was the first catalytic molecule during evolution of life?

A. (a) DNA

B. (b) rRNA

C. (c) tRNA

D. (d)mRNA

Answer: B

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7. Which compounds were used by Miller in his experiment for obtaining amino acids and other organic substances?

A. Carbon dioxide, water vapour and methane

B. Methane, ammonia, water vapour and hydrogen cyanide

C. Methane, ammonia, hydrogen and water vapour

D. Ammonia, methane and carbon dioxide

Answer: C

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8. Who first conducted experiment on evolution to prove biochemical origin of life?

A. Miller and Urey

B. Darwin

C. Lamarck

D. Weismann

Answer: A

9. Abiogenesis means

A. Spontaneous generation

B. Origin of life from living organisms

C. Origin of life from living organisms

D. Origin of life from microbes

Answer: A

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10. Origin of life as a result of chemical evolution has been properly explained by the most logical biochemical theory of origin of life which has been given by

A. Stanley Miller and HC Urey

B. Darwin

C. AI Oparin

D. S Fox

Answer: C

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11. Coacervates belongs to the category of :

A. Cyanobacteria

B. Protozoans

C. Molecular aggregates

D. Molecular aggregate surrounded by lipid membrane

Answer: D

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12. Who proposed that the first form of life could have come from pre-existing non-living organic molecules ?

A. SI. Miller

B. Oparin and Haldane

C. Charles Darwin

D. Alfred Wallace

Answer: B

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13. Which was absent in the atmosphere at the time of origin of life ?

A. NH_3

B. H_2

C. O_2

D. CH_2

Answer: C

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14. In the early earth, organic acids were produced by the combination of H_2 with

A. Ammonia and methane

B. hydrogen

C. Organic matter polymers

D. sulphates and nitrates

Answer: A

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15. The results of Miller's experiments were discussed in the book ' The planets' which was written by

A. Sayere

B. Harold Urey

C. Huxley

D. Stanley

Answer: B

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16. Miller conducted his experiment in an apparatus containing methane, ammonia and hydrogen in the ratio of

A. $2:5:4$

B. $2:1:2$

C. $5:4:1$

D. None

Answer: B

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17. Which of the following was formed in Stanley Miller's experiment?

A. Amino acids

B. Nucleic acids

C. UV radiations

D. Microspheres

Answer: A

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18. Which one of the following incorrect about the characteristic of protobionts (coacervates and microspheres) as envisaged in abiogenic 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: D

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19. According to Oparin, which one of the following was not present in the primitive atmospehre of the earth?

A. Methane

B. Oxygen

C. Hydrogen

D. Water vapour

Answer: B

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20. Which one of the following amino-acids was not found to be synthesized in Miller's experiment

A. Glycine

B. Aspartic acid

C. Glutamic acid

D. Alanine

Answer: C

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21. Assertion: Coacervates are believed to be the precursors of life. ltbegt Reason :

Coacervates were self-duplicating aggregates of proteins surrounded by lipid molecules.

A. Both Assertion and reason are tru and reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: C

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22. Assertion (A) : The earliest organisms that appeared on the Earth were non-green and presumably anaerobis.

Reason (R) : The first autotrophic organisms were the chemoautotrophs that never released oxygen.

A. Both Assertion and reason are tru and reason is the correct explanation of Assertion

B. Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion

C. Assertion is true, but Reason is false

D. Assertion is false, but Reason is true

Answer: B

23. Which compound has very important role in prebiotic evolution?

A. SO_2

B. NO

C. CH_4

D. SO_3

Answer: C

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24. The concept of chemical evolution is based on :

A. Crystalisation of chemicals

B. Interaction of water, air and clay under intense heat

C. Effect solar radiation on chemicals

D. Possible origin of life by combination of chemicals under suitable environmental conditions

Answer: D

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