

Ethiopian University Entrance Examination (EUEE)

Biology

Ginbot2011/June2019

BOOKLET CODE: 32

SUBJECT CODE: 06

Number of Items: 100

Time allowed: 2 hours

1. Which type of chromosome mutation causes the human genetic defect known as **trisomy 16**?

A. Chromosome inversion C. Deletion
B. Translocation D. Duplication

- Chromosome inversion causes leukemia
- Translocation is when a piece of one chromosome is transferred to another non-homologous chromosome. It causes chronic myelogenous leukemia
- Deletion causes Prader-Willi syndrome.

Ans- D

For further information read G12 bio book from page 157-158

2. What is another name for **secondary** consumer?

A. Carnivore C. Producer
B. Herbivore D. Decomposer

- Herbivores are primary consumers

Ans- A

Grade 12, Page 46

3. Which one of the following is commonly called the **code of life**?

A. Cell C. DNA
B. Organelle D. Nucleus

Ans-C

Grade 11, page 65 and grade 12, page 128

4. What is the function of **DNA polymerase**?

A. It hydrolyzes the DNA molecule
B. It converts the DNA molecule to RNA
C. It joins two RNA molecules to form DNA
D. It forms DNA by joining nucleotides

- DNA polymerase is an enzyme that initiates the building of a new complementary polynucleotide strand of DNA following separation of the original two strands.

Ans-D

G 12 ,Page 132

5. For which of the following purposes do biologists use **centrifuges**?

- A. Fractionation of cell contents C. Culturing microorganisms
B. Magnifying cell parts D. Measuring volume

- Centrifuges are used to separate solids from liquids where simple filtration is not adequate for the task.
- Microscopes are used to magnify cell parts
- Agar which is jelly-like substance obtained from sea weed is used for culturing micro-organisms in a Petri-dish.
- Measuring cylinders, pipettes and syringes are used to measure volume

Ans-A

Grade 11, Page 16-22

6. Which is the type of scientific research that is directly concerned with studies of the ways of solving problems related to human needs?

- A. Basic science C. Applied science
B. Space science D. Current science

Ans- C

Grade 11, page 3

7. Which of the following chromosomal errors creates a cell with an extra chromosome?

- A. Duplication C. Deletion
B. Inversion D. Non-disjunction

- Chromosomal non-disjunction occurs when homologous chromosomes do not separate successfully to opposite poles during meiosis, the result is one of the gametes lacking a chromosome and the other having an extra chromosome.

Ans-D

Grade 12, page 157-158

8. In which of the following groups of organisms are all the members unicellular?

- A. Bacteria C. Algae
B. Fungi D. Viruses

- All bacteria discovered to date are unicellular
- Fungi range from uni to multicellular
- Algae some are unicellular while others are multicellular
- Viruses are acellular entities.

Ans-A

Grade 12, page 3-4

9. What is the shape of an enzyme molecule?

- A. Linear C. Globular
B. Branched D. Pleated

- All enzymes are globular proteins.

Ans-C

Grade 11, Page 80-81

10. Which of the following is the greek word for life?

- A. 'Logos' C. 'Cientia'
- B. 'Cell' D. 'Bios'

- Logos means 'study'
- Cientia means 'knowledge'

Ans- D

Grade 11, page 2-3

11. The daily cycle activity that occurs over a period of a 24-hour period of time is called a:

- A. Stimulus- response C. Kinesis behavior
- B. Circadian rhythm D. Taxis behavior

Ans-B

Grade 12, page 240-241

12. Which one of the following terms best describes the number of different species in the biosphere or in a particular area?

- A. Species diversity C. Ecosystem diversity
- B. Genetic diversity D. Biodiversity

- Species diversity, genetic diversity and ecosystem diversity are all included under biodiversity.

Ans-D

Grade 12, page 64

13. Which of the following statements best describes the role of bacteria in the nitrogen cycle? Bacteria turn:

- A. Oxygen into nitrogen for plants to use
- B. Carbon dioxide into oxygen during the process of photosynthesis
- C. Nitrogen into a useable form in a process called transpiration
- D. Nitrogen into a usable form for plant use called ammonia

Ans- D

Grade 12 page 17-18 and 48-50

14. Both photosynthesis and respiration are involved in:

- A. Nitrogen cycle C. Carbon cycle
- B. Water cycle D. Phosphorous cycle

- Photosynthesis is the process that fixes carbon atoms from an inorganic source (carbon dioxide) into organic compounds (for example, glucose)
- Respiration is the process that releases inorganic carbon dioxide from organic compounds, it is the reverse of photosynthesis

Ans- C

Grade 12 Page 47-48

15. Respiration is:

- A. Anabolic and exergonic C. Catabolic and endergonic
- B. Anabolic and endergonic D. Catabolic and exergonic

- Anabolism is the process which builds up small molecules into larger ones.. It is an endergonic reaction (Endothermic)
Eg. Photosynthesis
- Catabolism is the reverse of anabolism. It is an exergonic reaction(exothermic)
E.g. Respiration

Ans- D

Grade 12, page

16. Which one of the following conditions is **least** likely to denature an enzyme?

- A. A high temperature
- B. A low temperature
- C. Heavy metal ions
- D. An extreme P^H

Ans-B

Grade 11, page 93-95

17. What are the compounds that have the same chemical composition, but different arrangements of atoms?

- A. Anomers
- B. Monomers
- C. Polymers
- D. Isomers

Ans- D

Grade 11, page 52-53

18. The hypothesis which a scientist tries to disprove is called:

- A. Null hypothesis
- B. Ad hoc hypothesis
- C. Alternative hypothesis
- D. Auxiliary hypothesis

- A hypothesis is a suggested solution for an unexplained occurrence that does not fit current accepted scientific theory.
- During a test, the scientist may try to prove or disprove just the null hypothesis
- If the null hypothesis is rejected, an alternative hypothesis is accepted in its place.

Ans-A

Grade 11, page 4-5

19. Of the following patterns of innate behavior in animals, which one is considered the **simplest**?

- A. Instinctive behavior
- B. Taxis movement
- C. Reflex action
- D. Kinesis movement

Ans-C

Grade 12, page 238-239

20. In which geological period is the evolution of **humans** most probably believed to have happened?

- A. Tertiary period
- B. Quaternary period
- C. Jurassic period
- D. Cretaceous period

Ans-B

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