

OBJECTIVE

NOTE: You have four choices for each objective type question as A , B , C and D . The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

QUESTION NO: 1

DK-41-22

- 1 Which of the following is not endotherm ?
(A) Bird (B) Amphibians (C) Flying insects (D) Mammals
- 2 Brain is protected by.
(A) Cranium (B) Skull (C) Orbits (D) All of the these
- 3 Muscle fatigue is caused by.
(A) CO₂ (B) Fumaric acid (C) Ethyl alcohol (D) Accumulation of lactic acid
- 4 Thyroid glands produce.
(A) Calcitonin (B) Tri-iodothyronine (C) T₃, T₄ and calcitonin (D) All A, B and C
- 5 Developing seeds are rich source of.
(A) Auxins (B) Cytokinin (C) Gibberellins (D) All A, B and C
- 6 Growth rate is influenced by.
(A) Hormones (B) Water (C) Vitamins (D) All A, B and C
- 7 Neurula is the stage in which embryo has.
(A) Neural tube (B) Blastocoels (C) Archenterons (D) Germinal layers
- 8 tRNA is synthesized by
(A) RNA polymerase-I (B) RNA polymerase-II (C) RNA polymerase-III (D) All A, B and C
- 9 Cell cycle is divided into.
(A) Interphase (B) Mitotic phase (C) Cytokinins (D) Both A and B
- 10 Microtubules which form mitotic apparatus are composed of.
(A) Tubulin (B) Troponin (C) Traces of RNA (D) Both A and B
- 11 Disputed paternity is determined now a days by.
(A) Blood type (B) PCR (C) DNA finger printing (D) Palindromic sequence
- 12 Which of the following is not a biotechnology product ?
(A) Vaccines (B) Modified enzymes (C) DNA probes (D) Hormones
- 13 Hot dry weather is well tolerated by.
(A) C₃ plants (B) C₄ plants (C) Angiosperms (D) Gymnosperms
- 14 Selection acts directly on
(A) Phenotype (B) Genotype (C) The entire genome (D) All A, B and C
- 15 The relationship of an organism to its environment is called
(A) Phycology (B) Ecology (C) Mycology (D) Biology
- 16 Tundra ecosystem located in Pakistan.
(A) Kara-Koram Mountain (B) Hindu Kush (C) Kohe-Suleman (D) Both A and B
- 17 Water is used in irrigation
(A) 10 % (B) 20 % (C) 90 % (D) Both A and B

SECTION-I

D9K-91-22

QUESTION NO. 2 Write short answers of any Eight (8) parts of the following

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i	How level of urea and metabolic wastes increases in human body ?
ii	How animals inhabitant of cold marine water maintain body heat ? Give examples.
iii	How temperature in fever is useful for human body ?
iv	What is cramp ? Give its two causes.
v	Define Disc-slip.
vi	Differentiate between ligament and tendon.
vii	Can we develop fruit without seed, How ?
viii	Differentiate between oviparous and viviparous animals by giving examples ?
ix	Differentiate weather from climate ?
x	Define zooplanktons and phytoplankton.
xi	What are environmental buffers ? Give their significance.
xii	Give any four adverse effects of Acid rain.

QUESTION NO. 3 Write short answers of any Eight (8) parts of the following

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i	Differentiate between dendrites and axons.
ii	How Na^+ and K^+ ions show movement during transmission of nerve impulse.
iii	How epilepsy can be characterized and diagnosed ?
iv	State complete dominance.
v	What is over dominance ?
vi	How can blood pressure be proved as an example of multifactorial trait ?
vii	What are the requirements to produce a recombinant DNA ?
viii	What are palindromic sequences ?
ix	What is PCR ?
x	Define Niche.
xi	Interpret mycorrhiza as example of symbiosis.
xii	Define succession. Name its types.

QUESTION NO. 4 Write short answers of any Six (6) parts of the following

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i	Appraise the effect of temperature on plant growth.
ii	Interpret apical dominance as a growth correlation.
iii	What is alkaptonuria ? Which enzyme is absent in these patients ?
iv	Give the role of RNA primer in DNA replication.
v	What is promoter ? Give the binding sites in the promoter of prokaryotes.
vi	Compare the benign and malignant tumors.
vii	What is synapses ? In which stage of prophase-I it takes place ?
viii	Briefly explain membrane invagination hypothesis.
ix	What are homologous organs ? Give example.

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5.(A)	Write a note on osmoregulation in marine animals.
(B)	Define ecosystem. Explain its various components.
Q.6.(A)	Compare locomotion in amphibians with locomotion in reptiles.
(B)	Discuss how DNA encodes protein structure with reference to the central dogma of molecular biology ?
Q.7.(A)	How is adrenal cortex important in the human body ? What abnormalities may arise if too much cortical hormones are produced and even the cortex is destroyed ?
(B)	Write a note on acid rain.
Q.8.(A)	Sketch the life cycle of Angiospermic plant ?
(B)	Discuss the genetics of colour blindness ?
Q.9.(A)	Write a note on conditions of growth in plants.
(B)	Differentiate animals possess organs with similar structure but with different functions and with different structures with similar functions. How does this supports the theory of evolution ?