

BIOLOGY
GROUP : SECOND

D4K-II-21
OBJECTIVE

TIME: 20 MINUTES
MARKS: 17

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

- 1 The most critical phase of mitosis is
(A) Metaphase (B) Prophase (C) Anaphase (D) Telophase
- 2 Pairing of homologous chromosomes starts in
(A) Leptotene (B) Zygotene (C) Pachytene (D) Diplotene
- 3 The basic unit of biological information is called
(A) Locus (B) DNA (C) Gene (D) Inheritance
- 4 The enzyme, which seals the forigen piece of DNA or gene into vector, is called
(A) Restriction enzyme (B) DNA cutter (C) DNA polymerase (D) DNA ligase
- 5 According to endosymbiotic hypothesis , the aerobic bacteria develops into
(A) Nucleus (B) Lysosomes (C) Mitochondria (D) Ribosomes
- 6 The relationship between insects and flowering plant is an example of
(A) Mutualism (B) Parasitism (C) Commensalism (D) Predation
- 7 Limentic phytoplankton includes
(A) Mosses (B) Cynobacteria (C) Algae (D) Bacteria
- 8 The atmosphere gas behaves like glass sheet of green house is
(A) Oxygen (B) Hydrogen (C) Carbon dioxide (D) Nitrogen
- 9 Which one of the following is the most toxic nitrogenous waste in animals ?
(A) Urea (B) Ammonia (C) Uric acid (D) Trimethylamine
- 10 The incidence of calcium oxalate type kidney stone
(A) 60 % (B) 65 % (C) 70 % (D) 75 %
- 11 The long tubular Sclerenchyma cells found in xylem are
(A) Fibers (B) Sclereides (C) Vessels (D) Cork cells
- 12 All the following bones are associated with appendicular skeleton except
(A) Femur (B) Radius (C) Ulna (D) Ribs
- 13 Ethene promotes flowering in
(A) Pine apple (B) Pears (C) Tomatoes (D) Rubber plant
- 14 Evolution of pollen tube is parallel to the evolution of
(A) Stem (B) Thorn (C) Seed (D) Branch
- 15 A little distance from apex of root and shoot lies the zone of
(A) Elongation (B) Maturation (C) Differentiation (D) Isolation
- 16 Accetabularia is an/a
(A) Angiosperm (B) Bryophyte (C) Alga (D) Fungus
- 17 The particular array of chromosomes that an individual possesses is called
(A) Genotype (B) Karyotype (C) Genome (D) Gene pool

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

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1	Differentiate between Hypotonic and Hypertonic solutions
2	Explain the role of contractile vacuole in Amoeba
3	What is vasodilation and vasoconstriction ?
4	What is moulting ?
5	Name the unpaired bones of skull
6	Explain in detail the Hinge Joint
7	Write any two disadvantages of cloning
8	Write down the role of pollen tube in evolution
9	Explain the life in limnetic zone
10	Write Human effects in temperate deciduous forests
11	Write any two consequences of population explosion
12	Differentiate between deforestation and afforestation

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

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1	How gibberellins are commercially produced ? Write their commercial applications
2	Distinguish between ganglia and nerves
3	Write the symptoms of congenital deficiency and later in life deficiency of thyroxine
4	How linked genes can be separated ? Write the linkage group on human chromosome 11
5	What are autosomes ? How many autosomes are present in grass hopper ?
6	Differentiate between homozygote and heterozygote
7	Define restriction enzymes and palindromic sequences
8	What are plasmids ? Give two examples
9	Define gene frequency. What is main principle of methods used for gene sequencing
10	Differentiate between habitat and niche
11	Define mycorrhiza. Give an example
12	What do you mean by nitrogen cycle ? How nitrogen of organic material is converted into NH_3

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

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1	Differentiate between area pellucida and area opaca
2	What is the difference between growth and embryonic development ?
3	Define point mutation with an example
4	Define one gene one polypeptide hypothesis and transformation
5	What is karyotype ? Give its significance
6	How does cytokinesis occurs in plants and animals ?
7	Differentiate between Malignant and Benign tumors
8	Define species and gene pool
9	Define Biogeography and Hydrothermal vents

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5.(A)	Write a comprehensive note on dialysis
(B)	What is parasitism ? Write down its significance
Q.6.(A)	What are joints ? Describe their different types
(B)	Explain double helical structure of DNA
Q.7.(A)	Define receptors ? How they are classified ?
(B)	Discuss renewable resources in an ecosystem
Q.8.(A)	Write a note on fruit set and fruit ripening
(B)	Describe the sex chromosomes of Drosophila, man and grass hopper
Q.9.(A)	Describe Haemmerling experiment to introduce the role of nucleus in development
(B)	Explain endosymbiont hypothesis for evolution from prokaryotes to eukaryotes