Biology	**(A)**	**L.K.No. 1311**	**Paper Code No. 8461**
Paper II	(Objective Type)	**Inter – A – 2022**	BioA-22
Time :	20 Minutes	**Inter (Part - II)**	BioA-22
Marks :	17	Session (2018 - 2020) to (2020 – 2022)	

Note : Four possible choices A , B , C ,D to each question are given. Which choice is correct fill that circle in front of that Question No. Use Marker or Pen to fill the circles. Cutting or filling two or more circles will result in Zero Mark in that Question.

Q.No.1 (1)	Mammalian Kidney including human is adapted to conserve water upto : (A) 99.5% (B) 89.5% (C) 79.5% (D) 69.5%
(2)	Mature Bone Cells are called : (A) Osteoblast (B) Chondrocytes (C) Osteocytes (D) Osteoclast
(3)	Which one of the following disease is caused by low calcium in the blood : (A) Tetany (B) Sciatica (C) Muscle Fatigue (D) Cramp
(4)	The number of Spinal Nerves in man is : (A) 12 Pairs (B) 31 Pairs (C) 24 Pairs (D) 62 Pairs
(5)	In Human Female, total gestation period is usually about : (A) 80 Days (B) 180 Days (C) 280 Days (D) 380 Days
(6)	Yellow Cytoplasm gives rise to : (A) Muscle Cells (B) Larval Epidermis (C) Gut (D) Notochord and Neural Tube
(7)	The Pigment Free area that appears at the time of Fertilization is called : (A) White Cytoplasm (B) Gray Crescent (C) Yolk (D) Blastopore
(8)	In Eukaryotes mRNA is not synthesized by the following Enzyme except : (A) DNA Polymerase (B) RNA Polymerase I (C) RNA Polymerase II (D) RNA Polymerase III
(9)	Crossing Over does not occur in all of the following stages except : (A) Zygotene (B) Diakinesis (C) Leptotene (D) Diplotene
(10)	The Syndrome having Trisomy of Chromosome 18 is called : (A) Down's (B) Patau's (C) Jacob's (D) Edward's
(11)	Which one of the following Genotypic Ratio is observed for cross between Heterozygous round and Homozygous wrinkled seed in Pea : (A) 3 : 1 (B) 1 : 1 (C) 2 : 1 (D) 1 : 3
(12)	Which of the following Organism is used to prevent Airborne Chemical Pollutants : (A) Transgenic Plants (B) Transgenic Animals (C) Transgenic Bacteria (D) Transgenic Fungus
(13)	Cell Suspension Culture of Cinchona Ledgeriana is used to produce : (A) Luciferin (B) Digitoxin (C) Dopamine (D) Quinine
(14)	Archaeobacteria tolerate temperature about : (A) 120°C (B) 100°C (C) 80°C (D) 40°C
(15)	Succession is Initiated by few hardy invaders called : (A) Pioneers (B) Climax Community (C) Decomposers (D) All these
(16)	All of the Grasses form 2nd layer in Grassland Ecosystem except : (A) Stipa (B) Sporobolus (C) Oryzopsis (D) Andropogon
(17)	Ozone Molecule is made up by three atoms of : (A) Nitrogen (B) Oxygen (C) Carbon (D) Hydrogen

Roll No.	1311 - 20000	Inter (Part – II)	Session (2018 –2020) to (2020 – 2022)
Biology (Subjective)	**Inter – A – 2022**	Time 2 : 40 Hours	Marks : 68

Note: It is compulsory to attempt any (8 – 8) Parts each from Q.No. 2 and Q.No.3 and attempt any (6) Parts from Q.No.4. Attempt any (3) Questions from Part – II. Write same Question No. and its Part No. as given in the Question Paper.

Make Diagram where necessary.

Part - I

22 x 2 = 44

Q.No.2
(i) Discuss Adaptation in Xerophytes.
(ii) By what phenomenon organisms adapt wide range of habitats ? Give its any two examples.
(iii) Discuss how Urea is formed from Ammonia ?
(iv) What is Secondary Growth ?
(v) Differentiate between Epinasty and Nyctinasty.
(vi) Give the process of Ecdysis or Moulting briefly.
(vii) Briefly discuss the phenomenon of Cloning in Animals. Give its major disadvantages.
(viii) What is Oestrous Cycle ?
(ix) Discuss Limnetic Zone of Fresh Water lake .
(x) Discuss Terrestrial Ecosystem.
(xi) What is Green House Effect ?
(xii) How Water Pollution is produced ?

Q.No.3
(i) Describe the Neural Pathways involved in regulation of Reflexes .
(ii) What Structures show response to an Impulse? Give examples.
(iii) Irrelevant Stimulus can be paired with natural stimulus in a type of learning . Comment on it.
(iv) Differentiate between Homozygous and Heterozygous with examples.
(v) Define Over Dominance. Give an example.
(vi) Distinguish Quantitative Traits from Qualitative Traits.
(vii) What is Recombinant DNA ?
(viii) Define PCR .
(ix) Differentiate between Ex Vivo and In Vivo Gene Therapy.
(x) Differentiate Ectoparasites from Endoparasites by giving examples.
(xi) What are Biogenic Elements ? Give their types.
(xii) Why Secondary Succession take less time to complete than Primary Succession?

Q.No.4
(i) How Temperature plays its role in the growth of Plants?
(ii) Define Blastula stage of Chick Development.
(iii) Differentiate between Heterochromatin and Euchromatin.
(iv) What is a Point Mutation ?
(v) Define Central Dogma . Name its two steps.
(vi) Write down about Anaphase.
(vii) How Mitosis is important with respect to Development and Growth ?
(viii) State Descent with Modification.
(ix) Discuss Biogeography as evidence of Evolution.

Part - II

3 x 8 = 24

Q.No.5 (a) Draw and describe the structure of Nephron. Also discuss Blood Supply of Nephron. (4)
(b) Describe Nitrogen Cycle in detail emphasizing three principal stages Ammonification , Nitrification and Assimilation. (4)

Q.No.6 (a) List the major parts of Skeletal Muscle Fibre and write the function of each part. (4)
(b) Discuss the process of Transcription. (4)

Q.No.7 (a) Discuss the role of Insulin and explain how Diabetes Mellitus is caused ? (4)
(b) Write a note on Green House Effect. Give its causes and ill effects. (4)

Q.No.8 (a) Describe the types of Parthenogenesis in Animals. (4)
(b) What is Epistasis ? Explain your answer with an example. (4)

Q.No.9 (a) What is Growth Correlation ? Describe briefly. (4)
(b) What are Endangered Species and how we protect the Endangered Species ? (4)