

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 question number in your answer book. Use marker or pen to fill the circles. Cutting or filling up two or more circles will result no mark.

SECTION-A

SWL-24

1	Questions	A	B	C	D
	In most birds the number of air sacs are:	6	7	9	8
	Which of the given animals is not omnivorous?	Crow	Man	Pig	Dog
	NADH in respiratory electron transport chain is oxidized by:	FADH	O ₂	Coenzyme Q	Cytochrome
	How many molecules of glyceraldehyde 3-phosphate are required to produce one molecule of glucose?	2	1	3	6
	Paired gill openings are developed in all chordates but non-functional in:	Rat	Fish	Frog	Amphiox
	A respiratory pigment of blue colour called haemocyanin is present in animals of phylum:	Porifera	Coelenterata	Mollusca	Arthropo
	In which phylum sexual phase is not observed?	Basidiomycota	Deuteromycota	Ascomycota	Zygomyc
	The simplest of all bryophytes are:	Mosses	Hornworts	Whisk ferns	Liverwor
	African sleeping sickness is caused by:	Trypanosoma	Entamoeba	Plasmodium	Stentor
	Which of the given are spiral shaped bacteria?	Cocci	Pseudomonas	Bacilli	Vibrio
	Independent evolutionary unit among the given is:	Species	Population	Genus	Family
	Vacuole in plants is responsible for:	Photosynthesis	Cellular excretion	Turgor pressure	Starch stor
	Vitamins are essential raw materials for the synthesis of:	Coenzyme	Prosthetic group	Holoenzyme	Apoenzym
	Carbohydrates are organic molecules and contain three elements:	Carbon, H ₂ O and oxygen	Carbon, sulphur and hydrogen	Carbon, calcium and hydrogen	Carbon, hydro and oxyg
	Branch of Biology which deals with study of ancestral history of living organisms is called:	Palaeontology	Zoogeography	Evolution	Heredit
	The substance produced by basophils that inhibits blood clotting is:	Heparin	Histamine	Fibrin	Albumi
	Which vein has oxygenated blood?	Femoral vein	Pulmonary vein	Subclavian vein	Jugular v

SECTION-B

Note:- Section B is compulsory.

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2. Write short answers to any EIGHT parts. (8 x 2 = 16)

- How does fibrous protein differ from globular protein? (2 points required)
- Differentiate the enzyme and coenzyme.
- How does substrate concentration affect the rate of enzyme action?
- Define mycorrhizae. Give one example.
- Write down medicinal importance of fungi. (2 points required)
- Give four characteristic features of phylum Annelida.
- Write two benefits and two harms caused by insects.
- Define irreversible inhibitors.
- What are tube feet?
- How would you differentiate polyps and medusae?
- Give molecular formula of chlorophyll "a" and "b".
- What are action and absorption spectra?

3. Write short answers to any EIGHT parts. (8 x 2 = 16)

- Differentiate the micro and macro molecules.
- Define bioremediation. Give one example.
- Define resolution of human eye.
- What are micro filaments? Give their function.
- What is giant amoeba? Give its biological name.
- Differentiate the tests of Foraminifera and Actinopods.
- Define thallus. In which organisms is it found?
- What are diatoms? Give one example.
- Define photorespiration.
- What are lenticels? Give their function.
- What is apoplast pathway of water transport in plants?
- Define thrombus and embolus.

4. Write short answers to any SIX parts. (6 x 2 = 12)

- Define species.
- Differentiate the structure and function of flagella and pili.
- Write down the scientific name of sugar cane and brinjal.
- Why is sphenopsida called arthropytes?
- What is an embryo sac?
- Define circinate vernation.
- Define nutrition. Enlist its types.
- Food habit can be responsible for heartburn. How?
- Trace the route of amino acids and large fatty acids from digestive tract and blood stream.

SECTION-C

Note:- Attempt any THREE questions. Each question carries EIGHT (4+4=8) marks.

(8 x 3 = 24)

- (a) Define cloning. Discuss its mechanism and commercial importance. (1+2+1)
(b) What is pulmonary respiration? Discuss its phases in frog. (1+3)
- (a) Write down a note on RNA and its types. (1+3)
(b) What are the economic gains due to fungi? (1+1+1+1)
- (a) What are plastids? Describe different types of plastids. (1+3)
(b) Describe different mechanical and chemical processes occurring in oral cavity for digestion of food in man. (3+1)
- (a) Give characteristics of viruses. (1x4)
(b) Explain the mechanism of transpiration pull in cohesion tension theory. (4)
- (a) Write down a note on: i. Nucleoid ii. Plasmid (2+2)
(b) Describe three phases of Calvin cycle. (3+1)

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