



Qn. No		
SECTION A		
1	Respiratory process is regulated by certain specialized centres in the brain. One of the following centres can reduce the inspiratory duration upon stimulation: a) Medullary inspiratory centre b) Apneustic centre c) Chemosensitive centre d) Pneumotaxic centre	1
2	Which one of the following is also known as antidiuretic hormone? a) Calcitonin b) Adrenaline c) Vasopressin d) Oxytocin	1
3	Which of the following is not a macromolecule? a) DNA b) Protein c) Polysaccharide d) Lipid	1
4	Frog shows which kind of excretion? a) Ammonotelic in water and ureotelic on land b) Ureotelic c) Uricotelic d) Ammonotelic	1

12	Base pairs found in 5 turns of DNA spirals are _____. a) 50 c) 10	b) 100 d) 20	1
DIRECTION : Q. No. 13-16: Consist of two statements— Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:			
13	Assertion : Inspiration occurs due to muscular relaxation. Reason : During inspiration, the diaphragm and external intercostal muscle contract simultaneously. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true and R is not the correct explanation of A. (c) A is true but R is false. (d) A is False but R is true.		1
14	Assertion: Neurohypophysis is under the direct regulation of the hypothalamus. Reason: Neurohypophysis stores and releases two hormones called oxytocin and vasopressin which are actually synthesized by the hypothalamus.		1
15	Assertion : DNA synthesis occurs in G1 and G2 periods of cell cycle. Reason : During G1 and G2 phase, the DNA content become double		1
16	Assertion : The skeleton of sponges is made up of spicules. Reason : Composition of spicules help in classification of sponges.		1
Section—B			
17	What are endocrine glands? Name their secretions.		2

18	What type of succession is seen in racemose inflorescence? One example?	2
19	What is the function of flame cells? In which phylum are they found?	2
20	What are viroids?	2
21	Name the bones of pectoral & pelvic girdle in man.	2

Section—C

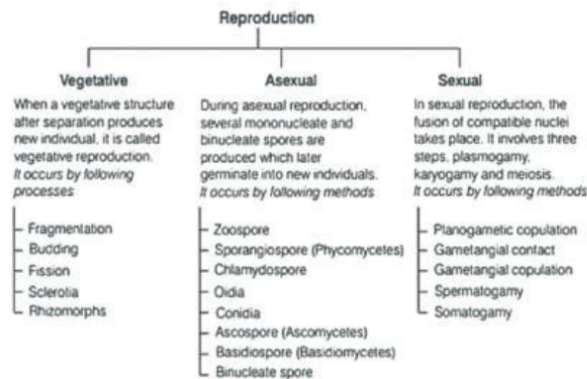
22	Describe the structure of contractile proteins – actin & myosin	3
23	What is the role of the following in regulation of Kidney function:- (i) Hypothalamus (ii) JGA (iii) ANF	3
24	Distinguish anaphase of mitosis from anaphase I of meiosis.	3
25	List the different features of class reptilia	3
26	Enumerate different types of nerve fibres according to their nature and function	3
27	What are fibrous, cartilaginous & synovial joints? Give examples of each.	3
28	Explain double circulation ? Difference between Heart beat and pulse	3

Section—D

29	<p>Read the text carefully and answer the questions:</p> <p>The fungi constitute a unique kingdom of heterotrophic organisms. They show a great diversity in morphology and habitat. Fungi are cosmopolitan and occur in air, water, soil, and on animals and plants. They prefer to grow in warm and humid places. Most fungi are heterotrophic and absorb soluble organic matter from dead substrates and hence are called saprophytes. When a fungus reproduces sexually, two haploid hyphae of compatible mating types come together and fuse. In some fungi, the fusion of two haploid cells immediately results in diploid cells (2n). The fungiform fruiting bodies in which reduction division occurs, leading to the formation of haploid spores. Symbionts</p>	
----	---	--

- in association with algae as lichens and with roots of higher plants as mycorrhiza.

Three types of reproduction occur in fungi



- (i) Observe the given flow chart of reproduction and mention which steps involves in the sexual cycle of fungi.

OR

In which form Fungi Stores Food Material? Do fungi have food vacuoles?

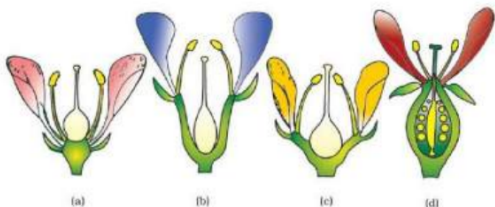
- (ii) What is Rhizopus? Also, mention Rhizopus - wheat rush a correct match?
- (iii) What is Mycorrhiza? And mention its function.

Read the text carefully and answer the questions:

The flower is the reproductive unit in the angiosperms. It is meant for sexual reproduction. A typical flower has four different kinds of whorls arranged successively on the swollen end of the stalk or pedicel, called thalamus or receptacle. These are calyx, corolla, androecium and gynoecium. Calyx and corolla are accessory organs, while androecium and gynoecium are reproductive organs. In symmetry, the flower may be actinomorphic (radial symmetry) or zygomorphic (bilateral symmetry). Based on the position of calyx, corolla and androecium in respect of the ovary on the thalamus, the flowers are described as hypogynous, perigynous and epigynous. A flower may be trimerous, tetramerous or pentamerous when the floral appendages are in multiple of 3, 4 or 5, respectively.



- (i) Observe the diagram given below. and mention what happens after the given stage.
- (ii) Is Actinomorphic - datura the incorrect match?

	<p>(iii) When the ovary is superior it is called?</p> <p style="text-align: center;">OR</p> <p>Which of the following represents epigynous? Also, mention what an epigynous flower is.</p> <div style="text-align: center;">  <p>(a) (b) (c) (d)</p> </div>	
Section—E		
30	<p>Comment on the statement - Meiosis enables the conservation of specific chromosome number of each species even though the process per se, results in reduction of chromosome number.</p> <p style="text-align: center;">OR</p> <p>Explain meiosis-II in an animal cell.</p>	5
31	<p>Enumerate the assumptions that we have undertaken in making the respiratory balance sheet. Are these assumptions valid for a living system?</p> <p style="text-align: center;">OR</p> <p>Give the various steps involved in Glycolysis.</p> <p>Describe the structure of the following with the help of labelled diagrams. [5]</p> <p>i. Nucleus</p> <p>ii. Centrosome</p>	5
32	<p style="text-align: center;">OR</p> <p>Give the biochemical composition of plasma membrane. How are lipid molecules arranged in the membrane?</p>	5