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LUCKNOW REGION

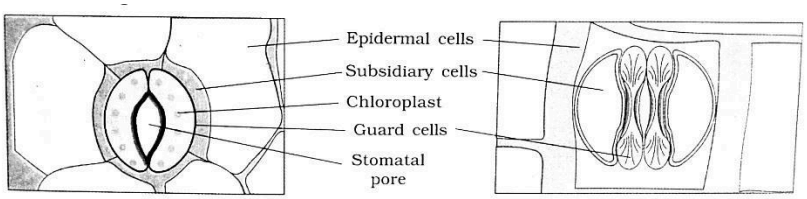
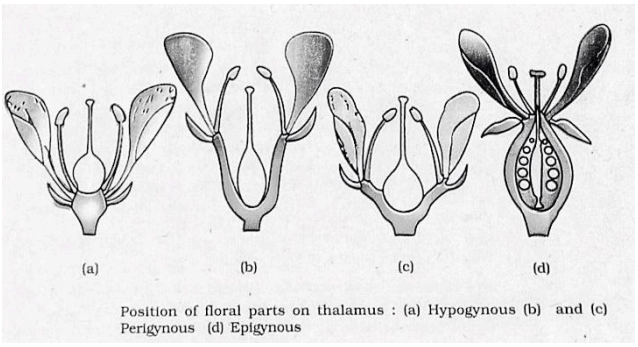
MARKING SCHEME

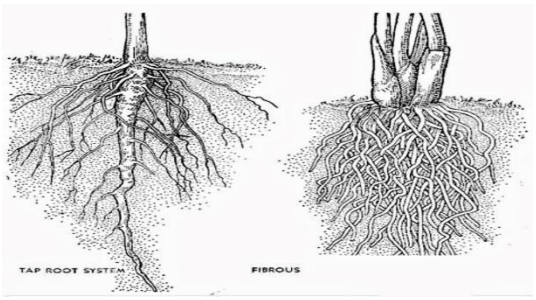
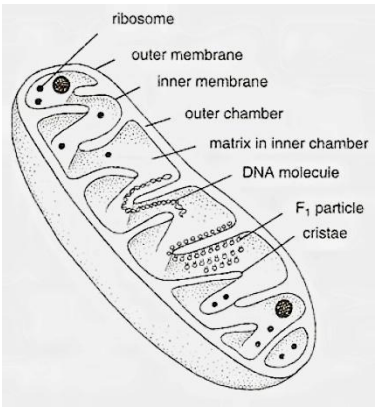
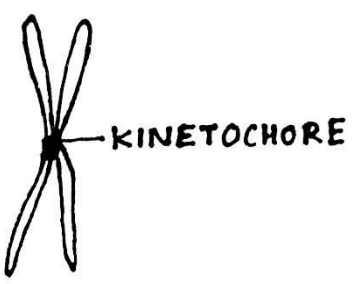
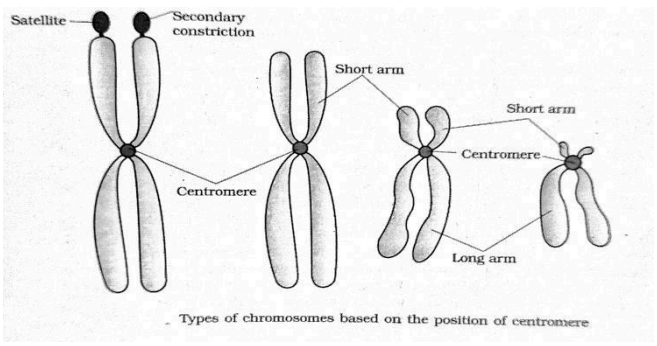
CLASS XI

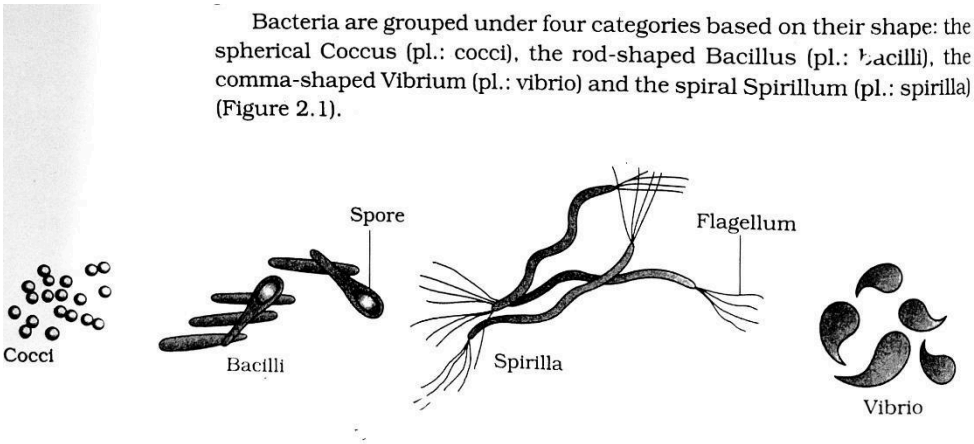
BIOLOGY (044)

SESSION ENDING EXAMINATION

Ans. No.	ANSWER	MARKS
	SECTION A	
1	d	1
2	a	1
3	d	1
4	b	1
5	b	1
6	d	1
7	c	1
8	c	1
9	b	1
10	b	1
11	d	1
12	a	1
13	a	1
14	a	1
15	b	1
16	a	1
	SECTION B	
17	a. Sycon or Euspongia or spongilla or any one suitable example b. Arthropoda c. Ctenophora d. Jawless or gill slits or any one suitable feature	½ x 4=2
18	External morphology of frog with description consisting- head, eye, fore limb, hind limb and trunk.	2
19	● The ratio of the volume of CO_2 evolved to the volume of O_2 consumed in respiration is called the respiratory quotient (RQ) or respiratory ratio. RQ = volume of CO_2 evolved / volume of O_2 consumed ● RQ = $6CO_2 / 6O_2 = 1$ In above reaction the RQ is calculated as one.	1+1=2
20	a. iv b. i c. ii d. v e.	½ x 4=2
21	The list of the important features present in the class Mammalia with a suitable example.	2

	SECTION C	
22	The structure of stomata (any one) and properly labelled.  Diagrammatic representation: (a) stomata with bean-shaped guard cells (b) stomata with dumb-bell shaped guard cell Or  Position of floral parts on thalamus : (a) Hypogynous (b) and (c) Perigynous (d) Epigynous	3
23	The Calvin cycle can be described under three stages- a. Carboxylation- Carboxylation is the fixation of CO_2 into a stable organic intermediate. Carboxylation is the most crucial step of the Calvin Cycle where CO_2 is utilized for the carboxylation of RuBP. This reaction is catalysed by the enzyme RuBP carboxylase which results in the formation of two molecules of 3-PGA. Since this enzyme also has an oxygenation activity it would be more correct to call it RuBP carboxylase-oxygenase or RuBisCo. b. Reduction- These are a series of reactions that lead to the formation of glucose. The steps involve utilization 2 molecules of ATP for phosphorylation and two NADPH for reduction per CO_2 and 6 turns of the cycle are required for the formation of one molecule of glucose from the pathway. c. Regeneration- Regeneration of the CO_2 acceptor molecule RuBP is crucial if the cycle is to continue uninterrupted. The regeneration steps require one ATP for phosphorylation to form RuBP.	1+1+1=3
24	The required differences between Archaebacteria and Eubacteria at least three points in both. NCERT page no. 19 Or The universal rules of binomial nomenclature of living organisms. NCERT page no.7	3

25	A general diagram of both root system and description with a suitable example in each.  	3
26	Diagram  The contribution of mitochondria in cell in description.	2+1 =3
27	The suitable functions of each phytohormones given.	1+1+1=3
28	Diagram of a neuron and proper labellings.	3
	SECTION D	
29	a. (ii) b. (iii) c. Vasa recta Or In some of the nephrons, the loop of Henle dips into the medulla. These nephrons are called as Juxta Medullary Nephrons. Note:- If any student write the function only then award the full marks.	1+1+2 =4
30	a. Robert Brown (1931) b. Basic dyes c. Perinuclear space, Red Blood Cells (R.B.C.) Or It is a site for active ribosomal RNA synthesis.	1+1+2 =4
	SECTION D	
31	  Types of chromosomes based on the position of centromere	5

	Structure of chromosome The description of metacentric, sub-metacentric, acrocentric and telocentric. Or Detail about description of all stages of Mitosis.	
32	The method of circulation as mentioned in NCERT page 283-84. Or The description of following types of the muscles i. Skeletal ii. Visceral iii. Cardiac	5
33	a.  The description of all shapes given b. The mycoplasma are organisms that completely cell wall. They are the smallest living cells known and can survive without oxygen. Many mycoplasma are pathogenic in animals and plants. Or a. Mycorrhiza- Roots of some genera have fungal association in form of mycorrhiza. Example *Pinus* b. Agar- One of the commercial products obtained from Gelidium and Gracilaria (student can write any one) are used to grow microbes and in preparation of ice-creams and jellies. c. Bilateral Symmetry- Animals can be categorized on the basis of their symmetry. When the body can be divided into identical left and right halves in only one plane, exhibit bilateral symmetry. Example annelids, arthropods or any suitable one. d. Coelom- Presence or absence of a cavity between the body wall and the gut wall is very important in classification. The body cavity which is lined by mesoderm is called coelom. Student can cite any example related to any kind of coelom. e. Diploblastic animals- Animals in which the cells are arranged in two embryonic layers, an external ectoderm and internal endoderm, are called diploblastic animals. Example coelenterates	3+2 =5 1 x 5 = 5