## M.Sc. BOTANY First Semester Higher Plant Diversity (MSB - 03)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) = 20 Part-B (Descriptive) = 50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

### 1. Answer the following questions (any five)

 $2 \times 5 = 10$ 

- a) Name two plants of economic importance of family Rutaceae.
- b) What do you mean by Gynobasic style? Name one family where Gynobasic style is found.
- c) Name two plants having syngenesious and synandrous stamens, (Mention one plant in each case)
- d) How will you differentiate Poaceae family from Cyperaceae family? (Mention two characters)
- e) Draw the aestivation of corolla of Pisum sativum.
- f) What is epipetalous? Cite one plant having epipetalous condition.
- g) Give two examples of epiphytic orchids.

### 2. Answer the following questions (any five)

 $3 \times 5 = 15$ 

- a) Write three distinguishing characteristics of family Rosaceae.
- b) Write the names of three economic plants of family Malvaceae.
- c) Write the families of the following plants: Radish, Oat, Sweet pea.
- d) What are the names of the fruits of the following plants:-Citrus, Brinjal, Banana.
- e) Distinguish between Gamopetalous and Epiphyllous.
- f) Give three primitive characters of Ranunculaceae
- g) Write three characters of Hutchinson's system.

## 3. Answer the following questions (any five)

5×5=25

- a) Give an account of the family Febaceae mentioning the distinguishing characteristics of its sub-families.
- b) Distinguish between
  - (i) Malvaceae from Tiliaceae
  - (ii) Orchidaceae from Asteraceae
- c) Give the distinguishing characteristics of the family Euphorbiaceae. Mention two plants along with their scientific names.
- d) "Orchidaceae family is considered as highly evolved among monocots" Justify.
- e) Write notes on
  - (i) Coralloid roots of Cycas
  - (ii) Polyembryony in Pinus
- f) Write notes on the salient features of Benettitales.

OR

Write in brief the economic importance of Gymnosperms.

g) Write in short the development of male gametophyte or female gametophyte found in *Cycas* with illustration.

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	(Th	he figures in the margin indicate full marks for the question	s)	
Dura	ation: 20 minutes		Marks – 20	
		PART A- Objective Type		
i. Cl	Choose the correct options from the following: 1 ×2			
1.	<ul><li>Adolf Engler and Karl Pra</li><li>a) Transitional phylogen</li><li>b) Sexual system</li><li>c) Natural system</li><li>d) None of the above</li></ul>			
2.	The basic taxon is the a) Genus c) Species	b) Sub species d) Variety		
3.	Most of the biological nar a) Latin c) Sanskrit	mes have been derived from b) German d) English		
4.	"General Plantarum" whice a) John Hutchinson c) Engler and Prantl	b) Bentham and Hooker d) None of the above		
5.	The aestivation of corolla of " Crotaleria juncea" is a) Valvate b) Vexillary c) Imbricate d) Twisted			
6.	In <i>Leucas aspera</i> , the stama) Didynamous  c) Diadelphous	hens are b) Tetradidynamous d) None of the above		
7.	The flowers of <i>Helianthus</i> a) Ray florets c) Pedicellate	s annuus located in the centre of the Head is called b) Disc florets d) None of the above		
8.	Pappus is found in a) Solanaceae c) Verbenaceae	b) Scrophulariaceae d) Asteraceae		

a) Cycas	b) Dryopteris			
c) Angiosperms	d) Funaria			
10. Cycas is a gymnosperm	because			
a) It has vessels in xyle				
c) Seeds are naked	d) None of the above			
11. Cycas is				
a) Monoecious and seed				
c) Seedless monoecious	d) Seedless dioecious			
12. The coralloid roots are th	e characteristics of			
a) Ferns	b) Cycas			
c) Angiosperms	d) None of the above			
13. Pinus belongs to				
a) Coniferales	b) Cycadales			
c) Ginkgoales	d) Gnetales			
	The sterile stigma which is present in Orchidaceae is called			
a) Pistil	b) Rostellum			
c) Spur	d) None of the above			
15. Lathyrus belongs to the fa	Lathyrus belongs to the family			
a) Asteraceae	b) Solanaceae			
c) Papilionaceae	d) None of the above			
16 Mala assessment of Discussion	dathers the			
<b>16.</b> Male gametes of <i>Pinus</i> ar a) Non-ciliated	b) Uniciliated			
c) Biciliated	d) None of the above			
c) Bromatod	Bendisen and Hookes			
17. Endosperm in gymnosper	d) None of the above			
a) Haploid	b) Diploid			
c) Triploid	d) All of the above			
18. A fleshy receptacle with a	a hollow cavity is found in			
a) Capitulum	b) Hypanthodium			
c) Cyathium	d) Verticillaster			
19. The most sensitive plant of	of family Febaceae is			
a) Acacia nilotica	b) Pisum sativum			
c) Mimosa pudica	d) None of the above			
20. The most advanced family	among dicots is			
a) Aster family	b) Grass family			
c) Orchid family	d) Buttercup family			

**9.** Transfusion tissue is present in the leaflet of