

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2014

(U.G.—CCSS)

Complementary Course—Botany

30 3C 03—CRYPTOGAMS, GYMNOSPERMS, PLANT PATHOLOGY AND GENETICS

(2009–2011 Admissions)

Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. (Answer all *twelve* questions) :

Multiple Choice :

- 1 Which of the following term represents genes carrying a pair of contrasting characters ?

(a) Alleles.	(b) Genes.
(c) Phenotype.	(d) Genotype.
- 2 Algae present in coralloid roots of *Cycas* is :

(a) <i>Spirulina</i> .	(b) <i>Chlorella</i> .
(c) <i>Anabaena</i> .	(d) <i>Microcystis</i> .
- 3 *Usnea* is a :

(a) Crustose lichens.	(b) Fruticose lichens.
(c) Foliose lichens.	(d) None of the above.
- 4 Genetic material in plant viruses is :

(a) Single stranded RNA.	(b) Double stranded RNA.
(c) Single stranded DNA.	(d) Double stranded DNA.
5. Pigment present in Rhodophyceae is :

(a) Phycoerythrin	(b) Fucoxanthin
(c) Phycocyanin	(d) Xanthocyanin

Fill in the blanks :

- 6 Single RNA molecule which is not covered by protein capsid is _____.
- 7 Aquatic species of *Riccia* is _____.
- 8 Citrus canker is caused by _____.

Turn over

True or False :

- 9 The cell walls of some archaeobacteria are composed of pseudomurein.
- 10 A classical example of incomplete dominance is *Pisum sativum*.

Name the following :

- 11 Most widely studied bacteriophage.
- 12 Name the pathogen which causes blast of paddy.

(12 × ¼ = 3 Weig)

II. Short Answer Questions (Answer all *nine* Questions) :

- 13 What is pathogen ?
- 14 Define heterozygous condition.
15. Satellite virus.
16. Vegetative reproduction in *Riccia*.
17. State Mendel's law of independent assortment.
18. Conceptacles of *Sargassum*.
19. Soredia in *Usnea*.
20. Seed of *Cycas*.
21. Flagella of bacteria.

(9 × 1 = 9 w)

III. Short Essay Questions (Answer any *five* out of seven questions) :

- 22 Explain the method of spreading of citrus canker.
- 23 What is test cross ? Mention its significance.
- 24 With the help of neat diagram describe binary fission in bacteria.
- 25 Describe the uredospore stage in *Puccinia*.
- 26 What are homozygous and heterozygous conditions.
- 27 Give an account of the structure of *Polysiphonia*.
- 28 Describe the male gametophyte of *Cycas*.

(5 × 2 = 10

IV Essay Questions (Answer any two out of three questions) :

29 Describe Mendel's dihybrid experiment on pea plants.

30 Explain the sexual reproduction in *Selaginella*.

31 With the help of labelled diagram describe the structure and reproduction of *Nostoc*.

(2 × 4 = 8 weightage)