Total number of printed pages–4

3 (Sem–1/CBCS) BOT HC 1

2022

BOTANY

(Honours)

Paper : BOT–HC–1016

(Phycology and Microbiology)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following as directed : ***(any seven)*** 1×7=7

   (a) What is viroid ?

   (b) What is endospore ?

   (c) The virus particle which consists of nucleic core surrounded by a protein coat is called _____. ***(Fill in the blank)***

Contd.

(d) Heterotrichous type of thallus is differentiated into a _____ system and an erect system of branches. *(Fill in the blank)*

(e) What is diatomaceous earth ?

(f) What is coenobium ?

(g) How many antherozoids are produced by each antheridial cell in *Oedogonium* ?

(i) 1
(ii) 2
(iii) 3
(iv) 4

(Choose the correct answer)

(h) What are amylum stars ?

(i) Ectocarpus shows _____ type of life cycle. *(Fill in the blank)*

(j) Name *one* nitrogen-fixing blue-green alga.

(k) What are heterocysts ?

(l) What is 'Gram stain' ?

2. Write briefly on the following : ***(any four)*** 2×4=8

(a) DNA virus

(b) Rickettsias

(c) Reserve food materials and pigments in red algae

(d) Trichoblast

(e) Gonidia

(f) Oogamous type of reproduction

(g) Replication in virus

(h) Structure of flagella in algae

3. Write short notes on the following : ***(any three)*** 5×3=15

(a) General characters of *Archaebacteria*

(b) Role of virus in production of vaccine

(c) Evolutionary significance of *Prochloron*

(d) Range of thallus structure in *Chlorophyceae*

(e) Cell division in *Oedogonium*

(f) Economic importance of *Diatom*

(g) Unilocular and plurilocular sporangia in *Ectocarpus*

(h) Cell structure of *Cyanophyceae*

4. Answer the following questions : ***(any three)*** 10×3=30

(a) Describe with neat diagrams the lytic and lysogenic life cycle of bacteriophage.

(b) Write in detail the role of bacteria in agriculture and industry.

(c) Describe with the help of diagrams different types of sexual reproduction in bacteria.

(d) Illustrate with labelled sketches the post-fertilization changes leading to the formation of cystocarp in *Polysiphonia*.

(e) Write in detail an account of sexual reproduction in *Oedogonium*.

(f) Write in detail the range of thallus organization and cell structure of *Vaucheria*.

(g) Give a detailed account on the life cycle of *Fucus*.

(h) What are the criteria used for classification of algae ? Write in detail the classification of algae.
