3 (Sem–2/CBCS) BOT HC 1

2022

BOTANY

(Honours)

Paper : BOT–HC–2016

(Mycology and Phytopathology)

Full Marks : 60

Time : Three hours

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

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

   (a) Name *one* heteroecious fungus.

   (b) What is fungi imperfecti ?

   (c) What is dolipore ?

   (d) Write only *one* difference between whiplash and tinsel flagella.

   (e) What is obligate parasite ?

(f) In fungi rhizomorph stands for what ?

(g) What are planospores ?

(h) Define karyogamy.

(i) What is the causal organism of black wart or wart disease of potato ?

(j) Resting spores of fungi are meant for what ?

2. Answer the following in brief: ***(any four)*** 2×4=8

(a) Distinguish between hyphae and mycelia.

(b) Distinguish between heterokaryotic and dikaryotic phase in fungi.

(c) What is Bioluminescence ?

(d) Difference between conidia and chlamydospores.

(e) What are the basic differences of gametangial contact and gametangial copulation ?

(f) Distinguish between saprophytic and parasitic organisms.

(g) Define somatogamy

(h) Define heterothallism.

3. Write short notes on ***any three*** of the following eight questions : 5×3=15

(a) Methods of asexual reproduction in fungi.

(b) Write *any one* modern classification of fungi.

(c) Methods of sexual reproduction in Rhizopus.

(d) Role of fungi in industry.

(e) Development of basidia and basidiospores in basidiomycetes.

(f) Diplobiontic life-cycle of saccharomyces

(g) Salient features of deuteromycetes

(h) Fructification in fungi

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

(a) Write a brief account of the degeneration of sex in fungi.

(b) With the help of neat labelled diagram describe the development of ascus and ascospores in Ascomycetes.

(c) What is the causal organism of late blight disease of potato ? Write a brief account of symptoms, disease cycle and control measures of it.

(d) Discuss briefly different methods of sexual reproduction observed in lower group of fungi.

(e) Discuss in detail the life history of *Puccinia graminis*.

(f) "Mushroom culture and its importance for society" — Discuss.

(g) Lichens are the best example of symbiosis." justify the statement.

(h) Write a brief account of the life cycle of synchytrium.

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3 (Sem–2/CBCS) BOT HC 2

2022

BOTANY

(Honours)

Paper : BOT–HC–2026

(Archegoniate)

Full Marks : 60

Time : Three hours

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

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

   (i) Write the name of Indian bryologist who earned international fame and is regarded as 'Father of Indian Bryology'.

   (ii) Name the tallest living gymnosperm.

   (iii) The antherozoids of Riccia are —

   (a) Monoflagellate

   (b) Biflagellate

(c) Quadriflagelate

(d) Multiflagellate

(Select the correct answer)

(iv) Telome theory was proposed by —

(a) Eames

(b) Zimmerman

(c) Mehra

(d) Sahni

(Select the correct answer)

(v) The genus Rhynia was discovered by _____ for the first time.

(Fill in the blank)

(vi) Write the name of spore bearing bean-shaped structure in the genus Marsilea.

(vii) What is protocorm ?

(viii) What do you understand by 'Bars of Sanio' in Ginkgo ?

(ix) The age of the tree or any branch is determined by _____. *(Fill in the blank)*

(x) What is rhizophore ?

2. Write short answer of the following : ***(any four)*** 2×4=8

(i) What are coralloid roots ?

(ii) Name a species where polyembryonic condition is found in Gymnosperms.

(iii) Briefly mention the amphibious nature of bryophytes.

(iv) Write on the structure of leaf in *Sphagnum*.

(v) What are the functions of gemma ?

(vi) Write about the megasporophyll of *Cycas*.

(vii) Write briefly on the fertile leaf of Pteris.

(viii) What do you understand by synangium ?

3. Answer the following questions : ***(any three)*** 5×3=15

(i) 'Ginkgo is a living fossil.' Justify the statement.

(ii) Write a short note on economic importance of *Pinus*.

(iii) Is the sporophytis of *Riccia* wholly dependent on the gametophyte for nutrition ? Justify your answer.

(iv) Briefly describe the archegoniophore of *Marchentia*.

(v) Describe briefly the range of thallus organisation of Bryophytes.

(vi) Discuss the Angiospermic characters of *Gnetum*.

(vii) Describe briefly the Telome theory regarding the evolution of sporophytes in pteridophytes.

(viii) With diagram describe the organisation and structure of strobilus of *Equisetum*.

4. Write descriptive answers of the following questions : ***(any three)*** 10×3=30

(i) Give a comparative account of the male gametophytes in *Cycas* and *Pinus* with the help of diagrams.

(ii) With the help of neat labelled diagrams discuss the development of female gametophyte in *Gnetum*.

(iii) With the help of labelled diagrams describe the sporophytes of polytrichum.

(iv) Describe the heterospory and seed habit in Pteridophytes.

(v) Why is *Psilotum* considered to be very primitive among the Pteridophytes ? Explain.

(vi) Give a comparative statement of morphology anatomy and reproduction of early land plants cooksonia and Rhynia.

(vii) Write a comparative account of different types of gametophytes met in *Lycopodium*. Which of them are regarded as primitive and why ?

(viii) With the help of labelled diagrams compare the structures of sporophytes of *Riccia* and *Marchantia*.