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SEAT No. \_\_\_\_\_ Sardar Patel University

No. of Printed Pages : 2

M. Sc. (II Semester) Examination

Monday, March 18, 2019, Time: 10.00 am to 1.00 pm

Paper: PS02CBOT21 (Biology and Diversity of Lower Plants)

Total Marks: 70

N.B.: Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q1. Choose the most appropriate answer for the following multiple-choice questions:

(8 X 1 = 8 Marks)

(i) Name the bacteria which thrives extreme environment conditions

- (a) Archaeobacteria (b) Eubacteria  
(c) Cyanobacteria (d) Protista

(ii) \_\_\_\_\_ algae reproduce by the conjugation method of sexual reproduction.

- (a) Serytonema (b) Spirogyra  
(c) Spirulina (d) Stigonema

(iii) Kingdom Plantae includes all except?

- (a) Eukaryotes (b) None motile organism  
(c) Multicellular (d) Heterotrophs

(iv) An aplanospore is a nonmotile asexual spore produced by which algae

- (a) Green algae (b) Red algae  
(c) Brown algae (d) Yellow algae

(v) Leafy bryophytes are commonly known as ?

- (a) Marchantia (b) Thallus  
(c) Moss (d) Lycopodium

(vi) In which of the following group would you place a plant which produces spores, has vascular tissue and lacks seed

- (a) Algae (b) Bryophyte  
(c) Pteridophyte (d) Gymnosperm

(vii) Pteridophytes are also called

- a) phanerogams b) vascular cryptogams  
c) amphibians of the plant kingdom d) spermatophytes

(viii) Selaginella belongs to division

- (a) Lycopsida (b) Pteropsida  
(c) Psilopsida (d) Sphenopsida

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(P.T.O.)

(Contd. ....2)

Q2. Answer any SEVEN of the following in brief:

(7X2 = 14 Marks)

- (i) Identify the groups of Eubacteria based on a laboratory technique”.
- (ii) Heterocyst and its functional significance
- (iii) Which are the main criteria to classify algae
- (iv) What are the negative effects of algal blooms.
- (v) What are the functions of elater cells in sporophytes of bryophytes
- (vi) Distinguish between exosporic and endosporic development
- (vii) Explain the development of eusporangiate structure development
- (viii) Diatoms and their ecological significance
- (ix) Differentiate between Isogamy and Autogamy
- (x) With suitable illustration explain the structure of Plectostele.

Q3. (a) Write notes on thallus structure in algae with suitable diagrams

(6 Marks)

(b) Write the characteristic features, reproduction and importance of cyanobacteria. (6 Marks)

OR

(b) Write notes on reproduction in algae with illustrations.

(6 Marks)

Q4 (a) Give a detailed account of algal pigments and their significance in algal classification

(6 Marks)

(b) Write notes on the economic importance of algae.

(6 Marks)

OR

(b) Explain what is eutrophication and reasons for its occurrence and control.

(6 Marks)

Q5 (a) Discuss the salient features of various groups of Bryophytes.

(6 Marks)

(b) Write notes on evolution of sporophyte in bryophytes

(6 Marks)

OR

(b) Discuss briefly the ecological and economic importance of bryophytes.

(6 Marks)

Q6 (a) Present the evidences to explain the heterospory and origin of seed habit in Pteridophytes.

(6 Marks)

(b) With suitable illustrations discuss the origin of stele in Pteridophytes

(6 Marks)

OR

(b) Write notes on fossil Pteridophytes.

(6 Marks)

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