

Reg. No. : .....

D 1658

Q.P. Code : [D 09 PBO 01]

(For the candidates admitted from 2009 onwards)  
M.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Year

Part III - Botany

PHYCOLOGY, MYCOLOGY  
BACTERIOLOGY AND VIROLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions from the following.

All questions carry EQUAL marks.

(5 × 20 = 100)

1. Write an account on Classification of Algae by Fritsch.
2. (a) Explain the phylogeny and interrelationship of Basidiomycetes.  
(b) Discuss Heterothallism in fungi.

3. (a) Write an account in classification of Lichens.  
(b) Write notes on Economic importance of Lichens.
4. Explain the procedure for isolation and maintenance of pure culture of Bacteria.
5. (a) Explain the structure of cauliflower mosaic virus.  
(b) Give an outline classification of viruses by Harrison.
6. Give an account on the Economic importance of Algae.
7. (a) Describe bacterial culture characters.  
(b) Explain the Growth curve of Bacteria
8. Write an account on Isolation and purification of plant viruses.

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Q.P. Code : [D 09 PBO 02]

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M.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Semester

Part III — Botany

**BRYOPHYTES, PTERIDOPHYTES AND  
GYMNOSPERMS**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions from the following.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Outline the classification of Bryophytes by Reimer.  
(b) Write notes on Fossil bryophytes.
2. (a) Explain the characteristic features of Lycopsidea.  
(b) Describe the stem anatomy of Equisetum.

3. Write an account of solar evolution in Pteridophytes.
4. Explain the external features and interrelationships of Pentoxylalls.
5. (a) Discuss the angiospermic characters of Gnetales.  
(b) List out the characteristic features of Taxales.
6. (a) Explain the life cycle of Polytrichum.  
(b) Write notes on Economic importance of Bryophytes.
7. Write an account on stelar evolution in Pteridophytes.
8. Describe the external feature and affinities of Bennettiales.

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**D 1660**

**Q.P. Code : [DO 9 PBO 03]**

(For the candidates admitted from 2009 onwards)  
M.Sc. DEGREE EXAMINATION, DECEMBER 2010.

First Year

Botany

**GENETICS, PLANT BREEDING AND  
BIOSTATISTICS**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions from the following

(5 × 20 = 100)

1. Explain how Mendel's dihybrid ratio can be modified with suitable examples.
2. Discuss the molecular basis of mutation. Add a note on various physical and chemical mutagens and their role. How is mutation detected by CLB method?
3. Write an account on extrachromosomal inheritance.

4. Write note on :

- (a) Modern concept of gene
- (b) Any *low* genetic disorders
- (c) IPR
- (d) Chi square test.

5. Describe the methods of plant breeding in plants.
6. Elaborate the role of polyploidy in plant improvement and add a note on the part played by induced mutation.
7. Give a concise account of germplasm.
8. Describe measures of central tendencies and dispersion. Indicate how they are Relevant in biological research.

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**D 1661**

**Q.P. Code : [D 09 PBO 04]**

(For the candidates admitted from 2009 onwards)

**M.Sc. DEGREE EXAMINATION, DECEMBER 2010.**

First Year

Botany

**CELL AND MOLECULAR BIOLOGY.**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions from the following.

(5 × 20 = 100)

1. Give the structure and functions of autonomously replicating organelles.
2. Describe the structure and chemistry and importance of cell wall.
3. Draw various types of chromosomes and explain. What are the possible aberrations that can take place in chromosomes? Add a note on their significance.
4. How is DNA explained in Watson and Crick's model? Compare the various types of DNA. Write briefly on the role of chloroplast DNA.

5. Write a general account on various types of RNA.

6. Write note on :

- (a) Genetic code
- (b) Principles of Electron microscopy
- (c) Any five functions of nucleus
- (d) Chiasma formation and significance.

7. Write in detail on DNA replication methods. Describe DNA repair mechanisms.

8. Write note on :

- (a) Glyoxysome
- (b) Fluorescence microscopy
- (c) Chromosome theory
- (d) Any five functions of Dictyosome.

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**D 1662**

**Q.P. Code : [D 09 PBO 05]**

(For the candidates admitted from 2009 onwards)

**M.Sc. DEGREE EXAMINATION, DECEMBER 2010.**

First Year

Botany

**ANATOMY, EMBRYOLOGY AND TISSUE CULTURE**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. Write an essay on origin, types, structure and functions of vascular cambium.
2. Describe the structure and functions of secondary Xylem. Add a note on Xylem rays.
3. Discuss in detail about megasporogenesis and development of female gametophyte.
4. Give an account of the following :
  - (a) Pollen stigma compatibility
  - (b) Structure of a pollen grain.

5. Trace the development of monocot embryo. Add a note on endosperm haustoria.
6. Write an essay on apomixis and parthenocarpy.
7. Write a detailed account of protoplast culture.
8. Describe the protocol for meristem culture. Write notes on cryopreservation.

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