

BOTANY

TIME ALLOWED: THREE HOURS	(PART-I MCQs)	MAXIMUM MARKS: 20
PART-I (MCQs) : MAXIMUM 30 MINUTES	(PART-II)	MAXIMUM MARKS: 80
NOTE: (i) First attempt PART-I (MCQs) on separate OMR Answer Sheet which shall be taken back after 30 minutes . (ii) Overwriting/cutting of the options/answers will not be given credit. (iii) There is no negative marking. All MCQs must be attempted.		

PART-I (MCQs)(COMPULSORY)

- Q.1. (i)** Select the best option/answer and fill in the appropriate Box ☐ on the **OMR Answer Sheet.(20x1=20)**
(ii) Answers given anywhere else, other than OMR Answer Sheet, will not be considered.

- Self-pollination of plant with two heterozygous gene pairs on two different chromosome pairs produces the following kind of genotypes.**
 (A) 16 (B) 4 (C) 9 (D) 8
- If adenine in a sample is 40% then the thymine in the sample would be:**
 (A) 60% (B) 40% (C) 20% (D) 50%
- If TCA codon is present in DNA the corresponding anticodon will be:**
 (A) UGU (B) AGU (C) UGT (D) AGT
- TTC is codon for:**
 (A) Proline (B) Leucine (C) Valine (D) Lysine
- Ribosome of Eukaryotes contains two sub-units:**
 (A) 40 S and 50 S (B) 70 S and 50 S (C) 60 S and 40 S (D) 50 S and 30 S
- Gametophytic generation is dominant in:**
 (A) Angiosperms (B) Bryophytes (C) Gymnosperms (D) Pteridophytes
- Endosperm of seed contains:**
 (A) Haploid chromosome number (B) Diploid chromosome number
 (C) Triploid chromosome number (D) Tetraploid chromosome number
- Double fertilization is present in:**
 (A) Bryophytes (B) Angiosperms (C) Gymnosperms (D) Pteridophytes
- Which of the following hormone promote ripening of fruit?**
 (A) Ethylene (B) Auxin (C) Gibberellin (D) None of these
- Total number of DNA codons are:**
 (A) 60 (B) 46 (C) 64 (D) 24
- Extra-chromosomal circular DNA molecules present in bacteria are called:**
 (A) Endosomes (B) Plasmids (C) Episomes (D) Nucleosomes
- Which of the following cause dormancy in buds and seed?**
 (A) Gibberellin (B) Cytokinin (C) Abscissic Acid (D) Ethylene
- Which of the following crop can fix atmospheric nitrogen?**
 (A) Beans (B) Cotton (C) Wheat (D) Rice
- Mendel started work on pea plant in:**
 (A) 1757 (B) 1857 (C) 1902 (D) 1880
- Which of the following crop is naturally cross-pollinated?**
 (A) Wheat (B) Rice (C) Barley (D) Maize
- Companion cells are present in:**
 (A) Bryophytes (B) Angiosperms (C) Pteridophytes (D) Gymnosperms
- Which of the following algae are almost exclusively marine?**
 (A) Brown Algae (B) Green Algae (C) Blue Green Algae (D) Desmids
- Shape of chloroplast of spirogyra is:**
 (A) Star shape (B) Girdle shape (C) Cup shape (D) Spiral band shape
- The amino acid at the beginning of polypeptide chain in eukaryotes is:**
 (A) Methionine (B) Phenylalanine (C) Glycine (D) Lysine
- Which of the following fungus is called club fungus?**
 (A) Ascomycetes (B) Deuteromycetes (C) Phycomycetes (D) Basidiomycetes

PART-II

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
 (ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
 (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
 (iv) Write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
 (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
 (vi) Extra attempt of any question or any part of the question will not be considered.

- Q. No. 2.** Explain evidences in support of evolution from conventional and molecular biology. **(20)**
- Q. No. 3.** Discuss biological and economic importance of fungi. **(20)**
- Q. No. 4.** How would you prove that replication of DNA is semiconservative? **(20)**
- Q. No. 5.** Explain Mendel's Law of Segregation and Law of Independent Assortment. Is law of Independent Assortment applicable to codominant genes and the genes present on the same chromosome? **(20)**
- Q. No. 6.** Explain structure and reproduction of Spirogyra. **(20)**
- Q. No. 7.** Explain molecular structure of cell membrane. **(20)**
- Q. No. 8.** Write short note on any FOUR of the following:- **(5 each) (20)**
- a. Micro and megasporogenesis in angiosperms
 - b. Ecosystem
 - c. Plant hormones
 - d. Air pollution
 - e. Gymnosperms