KNT/KW/16/5206

Bachelor of Science (B.Sc.) Semester–VI (C.B.S.) Examination

BOTANY

(Plant Physiology and Biotechnology)

Paper–1

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Illustrate your answers with suitable example and diagrams wherever necessary.

1. Write notes on :
   - (a) Role of auxins 5
   - (b) Phytochromes and their role. 5

OR

Write short notes on :

- (c) Geotropism 2½
- (d) Biological clock 2½
- (e) Role of ethylene 2½
- (f) Sigmoid Curve. 2½

2. Write notes on :
   - (a) Causes of seed dormancy 5
   - (b) Vernalization. 5

OR

Write short notes on :

- (c) Role of florigen 2½
- (d) Long day plants 2½
- (e) Phenolic compounds in plant defense 2½
- (f) Senescence. 2½

3. Write notes on :
   - (a) Methods of sterilization. 5
   - (b) Anther culture. 5

OR

Write short notes on :

(c) Cell suspension culture 2½

(d) Protoplast culture 2½

(e) Cybrid production 2½

(f) Ovary culture. 2½

4. Write notes on :

(a) Plasmid as cloning vector 5

(b) cDNA library. 5

OR

Write short notes on :

(c) DNA Polymerases 2½

(d) Restriction enzymes 2½

(e) Advantages of transgenic plants 2½

(f) *Agrobacterium* mediated gene transfer (Schematic representation). 2½

5. Write in **two** or **three** lines only (any **ten**). Diagrams are not necessary :

(a) Phytohormone

(b) Thigmotropism

(c) Hyponasty

(d) Abscission

(e) Scarification

(f) Terpenes

(g) Explant

(h) Aseptic culture

(i) Totipotency

(j) Expression vector

(k) Ligases

(l) Ti-Plasmid. 1×10=10