AU–349

M.Sc. Semester–II (CBCS Scheme) Examination

BIOTECHNOLOGY

Paper–2 BTB 1

(Molecular Biology)

Time : Three Hours] [Maximum Marks : 100

Note :— (1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. Give detail account on DNA replication mechanism in prokaryotes. Add note on types of DNA polymerases. 20

OR

Elaborate on repair mechanism of DNA. Add a note on enzymes involved in the DNA repair. 20

2. Describe in detail mechanism of transcription in prokaryotes. 20

OR

Elaborate on RNA processing. 20

3. Describe on :

(a) Initiation of translation in eukaryotes. 5

(b) Significance of Shine Dalgarno sequences. 5

(c) Signal polypeptide. 5

(d) Non ribosomal protein synthesis. 5

OR

(e) Molecular chaperons. 5

(f) Guanine nucleotide mediated translation regulation. 5

(g) Role of rRNA in protein synthesis. 5

(h) Free ribosomal protein synthesis. 5

4. Write on :

(i) RB allele. 5

(j) Ribozymes and its applications. 5

(k) TNF and cancer. 5

(l) Involvement of growth factors in cancer. 5

OR

(m) Splicing inhibitors. 5

(n) Antisence technology. 5

(o) P^{53} as a tumor suppressor. 5

(p) C-oncogenes. 5

5. Write on :

(q) RFLP 5

(r) Conjugation mapping. 5

(s) cDNA cloning. 5

(t) Sex linked inheritance. 5

OR

(u) Chromosome microdissection. 5

(v) Map based cloning. 5

(w) Protocol for AFLP. 5

(x) Application of marker assisted technologies in science forensic. 5