End Semester Examination

BT 205

Time: 900-12.00

Dated: 27-11-2022

Total Marks: 40

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1. **Protein X** cloned in a plasmid is expected to be transcription factor. How do you experimentally prove it?
2. How do you identify **more than one** transcription-control elements by linker scanning method?
3. Show the synthesis of β- galatosidase and permease, separately, for **induced** and **uninduced** conditions of diploid mutant (point mutation) strains for the followings:
   a) $I^+Z^-Y^+//I^-Z^+Y^+$
   b) $I^-Z^-Y^+//I^+Z^+Y^-$
   c) $O^+Z^+Y^+//O^+Z^-Y^+$
   d) $O^+Z^-Y^+//O^cZ^+Y^-$
4. Show schematically stepwise Splicing mechanism of **Group II** intron.
5. How does the **Copolymer** $(AC)_n$ based experiments of Dr Korana resolved genetic code?
6. How does **Wobble Base** of the anticodon determine *the number of codons* that a tRNA can recognize?
7. What is the role of **N-formyl group** to the amino group of methionine? Show schematically **termination** of polypeptide synthesis.
8. How does **Puromycin** and **Ricin** block protein Synthesis?
9. Show schematically the role of **RanGTP** in targeting of nuclear proteins.
10. How does opening of **acetylcholine-gated** channels lead to muscle contractions?

(Marks: 4 X10= 40)
