

Please check whether you have got the right question paper

- N.B:**
1. **All** questions are **compulsory**
  2. **Draw neat and labelled diagram wherever necessary**
  3. **Figures** to the **right** indicate **full marks**

**Q.1** With respect to Trp operon explain the following terms (a) Promoter (b) regulator (c) Inducer (d) Terminator (e) Operator **12**

**OR**

**Q.1** Explain the relationship between structure and function of an operon and the ways in which repressor regulates gene expression **12**

**Q.2** With respect to the regulation of gene expression in  $\lambda$  phage discuss the early transcriptional events. **12**

**OR**

**Q.2** What are lytic and lysogenic life cycles? How do they differ? **12**

**Q.3** With respect of the gene regulation in eukaryotes explain (a) Repression of gene activity by histones (b) Transcription activation by remodelling of Chromatin **06**

**OR**

**Q.3** With respect to the eukaryotic gene regulation describe- (a) Repressors (b) Activators **06**

**Q.4** With respect to the development of *Drosophila* embryo explain- (a) Maternal effect genes (b) Segmentation genes **06**

**OR**

**Q.4** What are homeotic genes? Describe their role in the development of *Drosophila* embryo. **12**

**Q.5** Write short notes on **any three** of the following- **12**

- (a) Repressible operon
- (b) Attenuation
- (c) Cro Protein
- (d) Alternative polyadenylation
- (e) Imaginal disc
- (f) Antennapedia