

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Summer 2018-19 Examination

Semester: 1
Subject Code: 11202101
Subject Name: Genetics

Date: 04/04/2019
Time: 10:30 am to 01:00 pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type (08)**
Describe *lac* operon.
- Q.1. B) Answer the following questions (Any two)**
- (a) Short note on Regulation of lytic phase. (04)
 - (b) Short note Attenuation of *trp* operon (04)
 - (c) Short note *ara* operon (04)
- Q.2. A) Answer the following questions. (Any two)**
- (a) 1.Short note on Translation Elongation factors & their roles. (04)
2. Draw the fine structure of mRNA label it.
 - (b) Short note regulation of lysogenic phase. (04)
 - (c) Short note Regulation of phage variation in *Salmonella*. (04)
- Q.2. B) Answer the following questions (Any two)**
- (a) Short note chromatin remodeling (03)
 - (b) short note on helix-turn-helix motif (03)
 - (c) Short note initiation of translation in eukaryotes (03)
- Q.3. A) Essay type (08)**
Biological, Medical and Industrial applications of recombinant DNA technology
- Q.3. B) Answer the following questions (Any two)**
- (a) Brief note (2x2M) (04)
 - 1. Define promoter
 - 2. Define enhancer
 - (b) Short note isolation of gene fragments using restriction endonucleases. (04)
 - (c) Short note cDNA libraries (04)
- Q.4. A) Answer the following questions.**
- (a) Short note YAC (04)
 - (b) Short note BAC (04)
- Q.4. B) Answer the following questions (Any two)**
- (a) Short note Southern blotting (03)
 - (b) Short note northern blotting (03)
 - (c) Short note zinc-finger motif (03)