

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc./IMSc, winter 2019-20 Examination

Semester: 1/7
Subject Code: 11202101
Subject Name: Genetics

Date: 27/11//2019
Time: 10:30am to 1:00pm
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) Brief note (Each of 04 marks) (08)**
(a) *lac* operon a negative control system.
(b) Structure and function of *trp* operon.
- Q.1. B) Answer the following questions (Any two)**
(a) Short note Heat-shock response in *E.coli* (04)
(b) Short note Regulation of phage variation in *Salmonella*. (04)
(c) Short note on Regulation of galactose metabolism in yeast (04)
- Q.2. A) Answer the following questions.**
(a) Brief note (Each of 02 marks) (04)
1. helix-turn-helix motif
2. Zinc finger motif
(c) Short note on *ara* operon (04)
- Q.2. B) Answer the following questions (Any two)**
(a) Short note on chromatin remodeling. (03)
(b) Short note on Regulation of lytic phase Bacteriophage λ . (03)
(c) Short note on Golden Rice. (03)
- Q.3. A) Brief note (Each of 04 marks) (08)**
(a) Ti plasmid
(b) YAC
- Q.3. B) Answer the following questions (Any two)**
(a) Short note on BAC. (04)
(b) Short note on types of Restriction endonucleases enzymes. (04)
(c) Short note on properties of plasmids. (04)
- Q.4. A) Answer the following questions.**
(a) Brief note (Each of 02 marks) (04)
1. Cohesive ends.
2. Blunt ends.
(b) Write a brief note on cDNA cloning in bacteria. (04)
- Q.4. B) Answer the following questions (Any two)**
(a) Short note on steps involved in PCR. (03)
(b) Short note on knockout mice. (03)
(c) Short note on Southern blotting. (03)