

P. S. SCIENCE & H. D. PATEL ARTS COLLEGE, KADI
Internal Examination

B. Sc. Semester – III

17-09-2017 Biotechnology: CC-BT-302 [Mark: 40]
Genetics and Analytical Techniques [2Hrs]

Q.1. Attempted all question.

1*1 =10

- 1) Define Genetics
- 2) Define Wavelength.
- 3) Which is a type of nitrogen base?
(a) Glutamic acid (b) Glycine (c) Guanine (d) Glycine
- 4) How many pairs of chromosomes are observed in *Drosophila* *Malanogaster*?
a) 4 (b) 22 (c) 23 (d) 46
- 5) The wavelength range of visible region is:
a) 200-400 nm (c) 3500- 7500
b) 350-750 nm (d) none of these.
- 6) When a single gene influences more than one trait it is called
(a) pseudodominance (b) pleiotrophy
(c) epistasis (d) none of these.
- 7) Multiple alleles control inheritance of
(a) phenylketonuria (b) colour blindness
(c) Sickle cell anaemia (d) blood groups
- 8) Crossing over in diploid organism is responsible for
(a) Segregation of alleles (c) dominance of genes
(b) Recombination of linked alleles (d) linkage between genes

- 9) Of both normal parents, the chance of a male child becoming colour blind are
- (a) no
 - (b) Possible only when all four grand parents had normal vision
 - (c) possible only when father's mother was colour blind
 - (d) possible only when mother's father was colour blind.
- 10) When two dominant independently assorting genes react with each other, they are called
- (a) collaborative genes (b) complementary genes
 - (c) Duplicate genes (d) supplementary genes.

Que. 2 Attempt any Four out of following. Each Question Carry 5marks

4*5=20

1. Discuss laws of Mendel with suitable experiments.
2. Write a note on multiple allele.
3. Write in detail Inborn Metabolic errors in human.
4. Define linkage. Write in detail types of linkage.
5. Define mutation. Explain Gene Mutation.
6. What is mutation and mutagen? Explain it.

Que. 3 Attempt any one out of following. Each Question Carry 10 marks

1*10 =10

1. What is gene interaction? Write in detail types of gene interaction with example.
2. Define spectroscopy. Write in detail Beers & Lamberts.