

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2017 I ^ ^
(Fifth Semester)

Branch - **ZOOLOGY**

GENETICS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

Explain or comment or write short note on the following in few sentences:

- 1 Heterozygous condition.
- 2 Recessive genes.
- 3 Hypostasis.
- 4 Universal recipient.
- 5 Chromosomal map.
- 6 Hypertrichosis.
- 7 Polyploidy.
- 8 Mongolism.
- 9 Inbreeding'
- 10 Gene frequency.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Explain the law of dominance during inheritance illustrating it with an example.
OR
b Describe the law of segregation of genes during inheritance with an example.
- 12 a Discuss the interaction of complimentary genes and the resulting ratio with an example.
OR
b Analyse the inheritance of ABO blood group in humans and the dominance hierarchy.
- 13 a Comment on the mechanism of crossing over the genes and its significance.
OR
b Discuss the types of sex linked inheritance in human citing examples.
- 14 a Explain the genetic basis of Klinefelter's syndrome in human beings.
OR
b What are Barr bodies? Mention their biomedical usage.
- 15 a Comment on the concept of inborn errors of metabolism.
OR
b Describe the need for eugenics and euthenics in human population.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Discuss the causes if incomplete dominance and co-dominance with suitable examples.
- 17 Illustrate the nature of inheritance in the case of skin colour in human beings.
- 18 Write an account on sex determination in human beings and the theories on the same.
- 19 ' Describe the various types of chromosomal aberrations and their outcome.
- ?n Analyse the imolications of Hadry-Weinberg law in the study of population