

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe monohybrid cross to prove Mendel's law of segregation.
Or
(b) With reference to skin colour in man, briefly explain multiple alleles.
17. (a) Explain Genic balance theory with an example.
Or
(b) Write any two syndromes caused by chromosome non-disjunction.
18. (a) Write an essay on inborn errors of metabolism.
Or
(b) State the CLB method of detection of mutation.
19. (a) Explain the genetic basis of sickle cell anaemia
Or
(b) Describe how Karyotyping is done in the human chromosomes.
20. (a) Describe the mechanism of genetic recombination.
Or
(b) Explain in detail about the genetic applications of virus.

Reg. No. :

**Code No. : 11626 E Sub. Code : JMZO 41/
SMZO 41**

**B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2019.**

Fourth Semester

Zoology — Main

GENETICS

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In a dihybrid cross how many combinations are possible
(a) 2 (b) 8
(c) 4 (d) 16
2. Erythroblastosis foetalis causes
(a) Anemia
(b) Diarrhoea
(c) Jaundice
(d) Anaemia and jaundice



3. Linkage theory was proposed by
 (a) Mendal (b) Devries
 (c) T.H. Morgan (d) Tshermark
4. Which of the following disease is sex-linked
 (a) Malignancy (b) Colour blindness
 (c) Lulkemia (d) Hepatitis
5. In Kline Felter's syndromes, the sex chromosomes are
 (a) XXY (b) XYY
 (c) YY (d) XX
6. The substance which induce mutation is called mutant it is
 (a) X-ray (b) Temperature
 (c) Nitrious acid (d) All the above
7. A programme of decreasing the frequency of deleterious gene in a human population is called
 (a) Eutelogenecis (b) Negative eugenics
 (c) Epistatis (d) Euploidy
8. Which is the inborn error of metabolism
 (a) Dysentry (b) Aebinism
 (c) Hypertrichosis (d) Acidosis
9. The discoverer of bacterial transformation is
 (a) Coher (b) Zoher
 (c) Harris (d) Griffith

10. The spherical bacterium is called
 (a) Bacillus (b) Coccus
 (c) Vibrio (d) Spirillum

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain back cross and test cross.
 Or
 (b) Give a brief account on co-dominance.
12. (a) Give an account of sex limited gene.
 Or
 (b) Discuss the mechanism of crossing over.
13. (a) Explain gene mutation with a suitable example.
 Or
 (b) Write a brief account on Turner's syndrome.
14. (a) Write a short account on positive Eugenics.
 Or
 (b) Write a note on Albinism.
15. (a) Explain the structure of bacterium with a neat diagram.
 Or
 (b) Explain bacterial conjugation.

