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**5 SEM TDC ZOOH (CBCS) C 12**

**2022**

( Nov/Dec )

**ZOOLOGY**

( Core )

Paper : C-12

( Principles of Genetics )

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks  
for the questions*

1. Fill in the blanks : 1×5=5
- (a) Inheritance of Y-linked genes is called \_\_\_\_\_.
- (b) Chromosomal theory of linkage is proposed by \_\_\_\_\_.
- (c) Klinefelter's syndrome is a type of \_\_\_\_\_ disorder.

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- (d) The  $F_2$  ratio in polygenic inheritance is \_\_\_\_\_
- (e) The transposing elements in *Drosophila* are known as \_\_\_\_\_ elements.
2. Write briefly on any two of the following :  $3 \times 2 = 6$
- (a) Epistasis
- (b) Codominance
- (c) Incomplete dominance
3. What is crossing-over? Write briefly about cytological basis of crossing-over.  $2+5=7$
- Or
- Define linkage. Explain it with a suitable example. 1
4. What is chromosomal aberration? Explain any two forms of chromosomal anomalies in human.  $2+5=7$
- Or
- What are mutagens? Give examples of some mutagens. Explain briefly the methods of detection of mutation.  $2+2+3=7$

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5. Explain the mechanism of sex determination in man. 7
6. What do you mean by extrachromosomal inheritance? Write about antibiotic resistance in *Chlamydomonas*.  $3+4=7$
7. What is polygenic inheritance? Distinguish between transformation and transduction.  $3+4=7$
8. What is transposon? Write about  $A_c$ - $D_s$  elements in maize or P elements in *Drosophila*.  $2+5=7$

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