QP CODE: 21100087

21100087

Reg No : .....

Name : .....

BSc DEGREE (CBCS) EXAMINATION, FEBRUARY 2021

Fifth Semester

Core Course - ZY5CRT06 - CELL BIOLOGY & GENETICS

B.Sc Biological Techniques and Specimen Preparation Model III,B.Sc Zoology and Industrial Microbiology Model III Double Main ,B.Sc Zoology Model I ,B.Sc Zoology Model II Aquaculture, B.Sc Zoology Model II Food Microbiology, B.Sc Zoology Model II Medical Microbiology,

2017 Admission Onwards

9B2D62F6

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Explain cell theory.
2. Define co-transport.
3. What are autophagic vacuoles?
4. What are telomeres?
5. What is paracrine signalling?
6. Define Principle of dominance.
7. Who proposed factor hypothesis?
8. Distinguish between Bilateral and Anterioposterior Gynandromorphs.
9. 'Parental gene combination has always a tendency to remain together in inheritance'- Justify this statement.
10. What is position effect?
11. Define metacentric chromosome
12. What is alkaptoneuria?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Proteins destined for secretion are translated primarily by the rough endoplasmic reticulum instead of by free ribosomes.What factors probably account for this selectivity?
14. Briefly explain the structure of nuclear pore complex with the help of a diagram.
15. Analyse the role of mitotic apparatus in chromosomal movements.
16. Explain polygenic inheritance with reference to skin colour in man.
17. Explain the genetic basis of erythroblastosis foetalis.
18. Distinguish between Y-linked genes and XY-linked genes with suitable examples.
19. Elaborate on how sex limited genes differ from the action of sex influenced genes.
20. Describe the numerical mutation of chromosome.
21. Explain Sickle Cell Anemia.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Give an acount on the various models of plasma membrane.
23. Define epistasis.Distinguish dominant and recessive epistasis. Explain both with an example
24. Give an account on the chromosomal basis of sex determination.
25. Discuss in detail the genetics and clinical manifestations of autosomal chromosome and sex chromosomal abnormalities.

(2×10=20)