

2020

Gurudas College

ZOOLOGY – HONOURS

(1+1+1 2010 Regulations)

PAPER I (UNIT II)

Full Marks: 50

Time: 2 hrs.

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable

Answer **any twenty five** questions from the following:

2x25

1. What is Philadelphia chromosome?
2. What are mutagens? Give examples.
3. What is “Degeneracy of genetic code”?
4. What is wobble hypothesis?
5. Distinguish between tight junction and gap junction?
6. What is replisome?
7. What is micro RNA?
8. What are base substitutions?
9. State about rho independent termination of transcription in prokaryotes.
10. What is the pH of lysosomes?
11. What are A –DNA and B- DNA?
12. What is Glycocalyx?
13. Compare and contrast induced mutation and spontaneous mutation.
14. Briefly state the direct and indirect effects of ionizing radiation.
15. What are the differences between missense mutation and nonsense mutation?
16. Describe karyotype and phenotype of Patau syndrome.
17. Distinguish between nucleotide and nucleoside.
18. How is tRNA charged during translation of the prokaryote?
19. Explain the roles of topoisomerase and helicase
20. Why fluid mosaic model is well accepted?
21. How the resolution of a microscope is related to its resolving power?
22. Mention in brief operational principle of phase contrast microscope.
23. Distinguish between dark field and bright field microscope.
24. What are liposomes?
25. Write about Shine-Dalgarno sequence.
26. What is C-value paradox?
27. How the resolution of a microscope is related to its resolving power?
28. What are “tautomeric shift” in mutation.
29. Mention the role of “*SXL*” gene in *Drosophila* sex determination process.
30. State two fundamental difference between phase contrast and optical microscope.
31. What do you mean by Amber, Opal and Ochre?
32. How drug detoxification occurs in endoplasmic reticulum?
33. What is *XIST* RNA
34. State the function of g RNA. Name the organism from which it is isolated.
35. Why is RNA splicing necessary in eukaryotes?