[21] SEAT No._____ No. of Printed Pages : 02 SC

SARDAR PATEL UNIVERSITY
S. Y. B. Sc. 4th SEMESTER EXAMINATION
Tuesday, 9th APRIL 2019
TIME: 10:00 AM TO 01:00 PM
CONCEPTS OF BIOLOGY (US04CBIO01)

Total Marks-70

Q.1 Multiple Choice Questions (one mark each) **(10)**

1. Chromosomes are found in organelle .....
(a) Nucleus (b) Mitochondria (c) Golgi body (d) Chloroplast

2. Centromere is located in ..... of chromosomes in Metacentric chromosomes.
(a) Middle (b) Top (c) Upper half (d) Lower half

3. DNA contains ..... sugar.
(a) Ribose (b) Deoxy ribose (c) both a & b (d) None of above

4. DNA contains ..... number of bases.
(a) 3 (b) 4 (c) 2 (d) 5

5. ..... has clover leaf model.
(a) r RNA (b) t RNA (c) m RNA (d) None of above

6. Watson and Crick proposed the model of .....
(a) RNA (b) DNA (c) Both a & b (d) None of above

7. .....enzyme unwinds the DNA in replication.
(a) Polymerase (b) Helicase (c) Okazaki fragment (d) None of above

8. ..... enzyme forms new strand in leading strand.
(a) Polymerase (b) Helicase (c) Okazaki fragment (d) None of above

9. .....RNA is involved in transcription.
(a) r RNA (b) t RNA (c) m RNA (d) None of above

10. Translation occurs in .....
(a) Nucleus (b) Cytoplasm (c) Both a & b (d) None of above

(P.T.O)

Q.2 **Answer any ten from the following.** **(20)**

1 What is a Sub-metacentric chromosome?
2 What is a Giant chromosome?
3 Explain the chemical composition of a chromosome.
4 Write about r RNA.
5 Explain the function of DNA.
6 Write about the structure of t RNA.
7 What is Okazaki fragment?
8 What is the function of DNA Ligase?
9 What is the role of DNA Polymerase?
10 What is Transcription?
11 Explain the term Translation.
12 Write the function of m RNA.

Q.3 a) Explain in detail the structure of a chromosome? **(06)**
b) Write about Euchromatin. **(04)**

OR

Q.3 a) Write short note on Polytene chromosome. **(06)**
b) Write about Heterochromatin. **(04)**

Q.4 Explain the Watson and Crick model of DNA. **(10)**

OR

Q.4 a) Write short note on Purines of DNA. **(05)**
b) Write short note on Pyrimidines of RNA. **(05)**

Q.5 a) Explain Replication of DNA in Eukaryotes. **(05)**
b) Write about bidirectional DNA replication. **(05)**

OR

Q.5 a) Write about Enzymes and Protein used in DNA replication. **(05)**
b) Explain Replication of DNA in Prokaryotes. **(05)**

Q.6 Write the mechanism of Protein synthesis in Eukaryotes. **(10)**

OR

Q.6 Write the mechanism of Protein synthesis in Prokaryotes. **(10)**

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