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Course: B. Voc, Program: Medical Laboratory Technology
Subject: Molecular Diagnostic Microbiology, Code: MLT-704
Semester: VI

Time: 03 Hours**Max Marks: 35****Instructions to the Students:**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answer type. All questions are compulsory. Each question carries 1 marks.
3. Section B comprises 8 long answer type questions out of which students must attempt any 5. Each question carries 5 marks.
4. Do not write anything on the question paper.

Q.No.	SECTION –A(SHORT ANSWER TYPE QUESTIONS)	Marks
1. a	DNA is a polynucleotide because a) Short chain of polymers b) Medium chain of polymers c) Long chain of polymers d) Both (a) and (b)	(1)
b	Which sugar is present in RNA? a) β -D-ribose b) β -D-fructose c) β -D-galactose d) Both (a) and (c)	(1)
c	The enzyme required for transcription is a) Restriction enzyme b) RNA polymerase c) DNA polymerase d) Transglucosidase enzyme	(1)
d	From a single molecule of DNA, PCR can make a) One copy only b) Hundred of copies c) Millions of copies d) Thousands of copies	(1)
e	The two types of bone marrow are found a) White and black b) Red and yellow	(1)

- c) Red and white
- d) Yellow and brown
- f) Name the scientist who proposed the double helix structure for DNA and RNA and when? (1)
- g) Define western blotting. (1)
- h) Define Stem cell banking. (1)
- i) Define karyotyping. (1)
- j) What is FISH test? (1)

SECTION -B (LONG ANSWER TYPE QUESTIONS)

- 2. Explain the principle and the enzymes involved in DNA replication? (5)
- 3. Describe the three binding sites found on the ribosome and their functions. (5)
- 4. Explain the need of chromosomal studies in hematological studies. (5)
- 5. Describe the principle of PCR and its applications? (5)
- 6. What is flow cytometry test and its risks? (5)
- 7. Describe the various hazards of radioactive material and their safe disposal. (5)
- 8. Explain the steps and functions of reverse transcription. (5)
- 9. Describe the disorders of chromosomes and their causes. (5)

===END OF PAPER===