MAO-003-038605 Seat No. _____

# B. Voc. (M. L. M. D. T.) (Sem. VI) Examination

**March / April - 2018**

## GMLMDT - 6.5 : Molecular Tools in Forensic Sciences

**Faculty Code : 003**
**Subject Code : 038605**

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

**Instructions :** (1) All questions are compulsory.
(2) The paper is divided in two sections.
(3) Figures on right indicate marks.

### SECTION - I

**1** Answer the following questions : **20**

(1) What is J.E.Hoover known for ?
(2) Who is recalled as Father of Anthropometry ?
(3) What is the origin of the word 'forensic' ?
(4) How can you discriminate a criminal in crowd ?
(5) What is White Collar Crime ?
(6) Which drug is used for Narco analysis ?
(7) What type of precautions should be taken before narco analysis ?
(8) Differentiate between a Pistol and a Shotgun Rifle.
(9) What types of evidences may be present at the scene of a Gunshot crime ?
(10) What is essential if you want DNA from Hair ?
(11) What is a Tracker Bullet ?
(12) Select the correct answer: A primer for PCR is single stranded DNA/RNA.
(13) Write the use of ethidium bromide.
(14) Denaturant cleaves _____ bond of the DNA.
(15) What is the direction of DNA amplification ?
(16) The components of RT-PCR machine are _____ and _____.
(17) What is annealing temperature in PCR ?

(18) Define Y-STR.

(19) What is melting temperature ?

(20) Write the use of Mitochondrial DNA.

## SECTION - II

**2** (a) Answer in brief : (any **3**) **3×2=6**

(1) Which indentation marks are found on a fired bullet?

(2) What are Physical Evidences?

(3) What kind of tests can be done for identification of fibers?

(4) How serial numbers from metal plate are restored?

(5) Which parameters are measured during a polygraph test?

(6) What are the types of stimuli?

(b) Answer in brief : (any **3**) **3×3=9**

(1) Explain Locard's Exchange principle.

(2) What is forensic toxicology? What areas are covered under this?

(3) What are the characteristics of a cartridge case?

(4) What are the applications of forensic science?

(5) What are synthetic and natural fibers?

(6) What is mechanism of brain fingerprinting?

(c) Answer in brief : (any **2**) **2×5=10**

(1) What are impression evidences? How can you collect them?

(2) Give detailed account of Narco analysis.

(3) Describe in detail: Polygraph test.

(4) What are the different types of searching methods for CSI?

(5) Which tests are used for identification, confirmation and individualization from blood?

**3** (a) Answer in brief : (any **3**) **3×2=6**

(1) Define RAPD.

(2) What is SNP?

(3) What is a primer? Mention its use.

(4) What is RFLP ?

(5) What is Ribotyping ?

(6) What are restriction enzymes ? Give an example.

(b) Answer in brief : (any **3**) **3×3=9**

(1) What is EEG ? How it works ?

(2) Explain polymorphism in DNA in brief.

(3) What is TGGE ?

(4) What are the uses of DNA finger printing ?

(5) What are the principles of fingerprinting ?

(6) What is the role of adapter in AFLP ?

(c) Answer in brief : (any **3**) **2×5=10**

(1) Explain the principle of TaqMan.

(2) Discuss the technique of DGGE.

(3) Describe the principle of PCR and its applications.

(4) Write a note on ARDRA.

(5) Write a short note on Hair examination.

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