M.Sc.

2014

2nd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-201 (UNIT-9)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

(Module — 1)

1. Answer any five questions of the following : 1×5

(a) Write the full form MMP(s).
(b) What do you mean by coagulation of Semen ?
(c) Write the function of fructose in semen.
(d) What do you mean by Oligospermia ?
(e) What do you mean fetto-placental unit ?
(f) What do you mean by Superovulation ?

(Turn Over)
(g) What do you mean nidation?
(h) Why placenta is considered as ‘seasonal endocrine gland’?

2. (a) What are the major types of ovulation?
(b) Describe the mechanism of ovulation with special reference to ‘Collagenase-depolymerase’ joint effect.  
   Or
(a) Write the time period of different timester of pregnancy.
(b) Explain the hormonal mechanism of pregnancy maintenance with special reference to progesterone—
estrogen balance.  
   3+5

3. (a) State the role of MMP(s) and TIMMP(s) in implantation of blastocyst.
(b) Write the process of hypoosmolarity test of sperm.  
   Or
(a) Describe the superovulation process with special reference to hormone treatment.
(b) State the importance of cryopreservation of sperm.  
   4+3
(Module — 2)

4. Answer any five questions from the following: \( 1 \times 5 \)
   
   (a) Write the full form of 'GIFT'.
   
   (b) Write the full form of ICI and IVI.
   
   (c) What is aerosome?
   
   (d) Write the name of background stain used in sperm viability.
   
   (e) What is the function of neutral \( \alpha \)-glucosidase?
   
   (f) Define infertility.
   
   (g) Write the importance of leukocyte count in semen.
   
   (h) Write the importance of acid phosphatase study in rape case.

5. (a) State the advantages of ICSI over IVF.
   
   (b) Describe the process of micro-injection of sperm in oocyte. \( 3 \times 5 \)

   Or

   (a) Write the major causes of female infertility.
   
   (b) Discuss the supergrade quality of sperm collection in ART. \( 4 \times 4 \)
6. (a) Write the principle of Aerosome testing by using Gelatine coated slide.

(b) State the steps adopted for assessment of sperm fertility through above mentioned test.

(c) Write the reference value of the test. 2+4+1

Or

(a) State the conditions when IUI is adopted to manage the infertility.

(b) Describe the hormone treatment protocol for hormone-induced ovulation.

(c) Why success rate of IUI is not very high? 3+2+2