



41789

LIBRARY
Brainware University
Barasat, Kolkata - 700125



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(MLT)-2023

Course Name – Assisted Reproductive Technology

Course Code - BMLTE604A

(Semester VI)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Blood-testis barrier is formed by _____; Select the correct option.
 - a) Leydig cells
 - b) Sertoli cells
 - c) Germ cells
 - d) Peritubular cells
- (ii) Prostate secretes _____; Choose the correct answer.
 - a) Acidic mucus
 - b) Alkaline fluid
 - c) Hormones
 - d) Fructose
- (iii) Identify the correct option for the function of Epididymis.
 - a) Sperm production
 - b) Sperm maturation
 - c) Hormone secretion
 - d) Sperm transport
- (iv) Primary oocyte is arrested in _____
 - a) Prophase I
 - b) Metaphase I
 - c) Prophase II
 - d) Metaphase II
- (v) Which gland produces seminal fluid, Select the correct option.
 - a) Prostate
 - b) Bulbourethral
 - c) Seminal vesicle
 - d) All
- (vi) Central diabetes insipidus is due to _____; Select the correct option.
 - a) Kidney disease
 - b) Pancreatic disease
 - c) Pituitary dysfunction
 - d) Thyroid disorder
- (vii) Chronic hypertension affects fertility by _____; Select the correct option.
 - a) Improving blood flow
 - b) Reducing gonadal perfusion
 - c) Increasing hormone secretion
 - d) No effect
- (viii) PCOS is associated with _____; Select the correct option.
 - a) Low androgen
 - b) High androgen
 - c) Low insulin
 - d) ADH excess
- (ix) ELISA is based on the principle of _____; Identify the correct option.

- a) Enzyme–substrate reaction
c) Protein denaturation
(x) Cross-reactivity in ELISA causes _____; Identify the correct option.
a) False low values
c) No change
(xi) IUI involves placement of sperm into _____; Select the correct answer.
a) Vagina
c) Uterus
(xii) Embryo transfer is performed into _____; Select the correct answer.
a) Ovary
c) Uterus
(xiii) OHSS is associated with _____; Select the correct answer.
a) Ovulation induction
c) Embryo transfer
(xiv) Ethical issue in ART includes _____; Select the correct answer.
a) Informed consent
c) Semen volume
(xv) Frozen embryo transfer uses _____; Select the correct option.
a) Fresh embryos
c) Oocytes
- b) Antigen–antibody reaction
d) DNA hybridization
b) False high values
d) Color loss
b) Cervix
d) Ovary
b) Fallopian tube
d) Cervix
b) Semen collection
d) ICSI
b) Drug dosage
d) Blood group
b) Cryopreserved embryos
d) Semen

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Explain the blood supply of the ovary and its relevance in ovarian stimulation. (3)
3. How does hypothyroidism affect ovulation- Explain it. (3)
4. What is a blastocyst- define with clearly demarcated diagram. (3)
5. A 32-year-old woman with 3 years of infertility shows variable FSH values on two consecutive days tested in the ART laboratory. Analyze the condition and identify the condition from the perspective of ART. (3)
6. Why is the window of implantation critical in IVF cycles-- Justify under the light of Embryology. (3)

OR

Anticipate the reason, why is blastocyst transfer preferred over cleavage-stage transfer? (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Discuss hormonal abnormalities in Diabetes mellitus affecting fertility. (5)
8. Discuss semen parameters in ART. (5)
9. Explain the role of insulin resistance in PCOS. (5)
10. Explain oligospermia. (5)
11. Define STD-induced infertility. (5)
12. Discuss importance of embryo grading in ART. (5)

OR

A 35-year-old male presents with low sperm count on semen analysis. Evaluate the aetiological factors for the same. (5)
