

**M.Sc. Part-I Semester-I (CBCS Scheme) Examination**  
**ZOOLOGY**  
**GAMETE BIOLOGY**  
**Paper-III**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) All questions are compulsory.

(2) All questions carry equal marks.

(3) Illustrate your answer with suitable diagrams wherever necessary.

1. Describe the following :

- (a) Differentiation of Leydig cells
- (b) Sperm functions
- (c) Composition of semen
- (d) Morphological basis of spermatogenesis

**OR**

- (e) Gametic gene expression
- (f) Morphology of Leydig's cell and its functions
- (g) Formation of semen
- (h) Regulation of spermatogenesis.

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2. Explain the following :

- (i) Endocrine regulation of ovarian follicular growth
- (j) Regulation of ovulation
- (k) Acrosome reaction
- (l) Formation of fertilization cone

**OR**

- (m) Oogenesis
- (n) Sperm-egg recognition in frog
- (o) Capacitation
- (p) Sperm motility.

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3. Describe types of cleavage.

**OR**

Explain gastrulation and formation of germ layers in mammals. 16

4. Explain the following :

- (q) Super ovulation
- (r) Screening of genetic disorder
- (s) Disadvantages of ART
- (t) ICSI and GIFT

**OR**

- (u) In Vitro fertilization
- (v) Cloning of mice by embryo transfer
- (w) In vitro gamete formation
- (x) Collection of gametes.

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5. Describe procedure and application of transgenic animals.

**OR**

Describe gene therapies. 16