

**MCQ TEST SERIES****S12-BZ-C2-HUMAN REPRODUCTION****2.4 FERTILIZATION AND IMPLANTATION**

1. Capacitation of sperm refers to:
  - A. Fusion of sperm with ovum
  - B. Enzyme activation in sperm head
  - C. Functional maturation of sperm in female tract
  - D. Initiation of mitosis in the sperm
2. What enables sperm to penetrate the zona pellucida of the ovum?
  - A. Mitochondrial ATP
  - B. Flagellar movement
  - C. Acrosomal enzymes
  - D. Presence of fimbriae
3. Which enzyme is released during the acrosomal reaction?
  - A. Amylase
  - B. DNA polymerase
  - C. Hyaluronidase
  - D. Acetylcholinesterase
4. What structural change prevents polyspermy after fertilization?
  - A. Zona thickening
  - B. Formation of fertilization membrane
  - C. Shedding of corona radiata
  - D. Loss of mitochondrial sheath
5. Where does fertilization typically occur in humans?
  - A. Cervical canal
  - B. Uterus
  - C. Ampullary-isthmic junction of fallopian tube
  - D. Vagina
6. Which stage of cleavage leads to the formation of morula?
  - A. First cleavage
  - B. 2-cell stage
  - C. 8-cell stage
  - D. 16-cell stage
7. The blastocyst consists of:
  - A. Corona radiata and zona pellucida
  - B. Trophoblast and inner cell mass
  - C. Endoderm and mesoderm
  - D. Spermatid and ovum
8. Implantation is the process by which:
  - A. Ovum is released into the uterus
  - B. Blastocyst embeds in endometrium
  - C. Ovum fuses with sperm
  - D. Embryo travels through cervix
9. Which hormone relaxes the fallopian tube and assists embryo movement toward the uterus?
  - A. FSH
  - B. Estrogen
  - C. Progesterone
  - D. Oxytocin
10. Implantation marks the beginning of:
  - A. Parturition
  - B. Ovulation
  - C. Pregnancy
  - D. Gastrulation
11. If the fertilized egg implants in the fallopian tube, it results in:
  - A. Normal pregnancy
  - B. Ectopic pregnancy
  - C. Failed fertilization
  - D. Polyspermy
12. What surrounds the ovum and is digested by hyaluronidase?
  - A. Zona radiata
  - B. Perivitelline space
  - C. Germinal vesicle
  - D. Corona radiata
13. Cortical granules in the ovum are responsible for:
  - A. Cleavage of zygote
  - B. Capacitation of sperm
  - C. Blocking entry of additional sperm
  - D. Formation of zona pellucida
14. What stage immediately follows morula during embryonic development?
  - A. Zygote
  - B. Blastocyst
  - C. Gastrula
  - D. Fetus
15. The trophoblast gives rise to which of the following?
  - A. Inner cell mass
  - B. Embryo
  - C. Placenta
  - D. Yolk sac

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**ANSWER KEY**

1. C
2. C
3. C
4. B
5. C
6. D
7. B
8. B
9. C
10. C
11. B
12. D
13. C
14. B
15. C

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