

# ETERNAL CAREER CLASSES

SUBJECT : BIOLOGY

CLASS : XII

FULL MARKS : 20

NAME : .....

BOARD TEST : 04

DATE : 06.12.2024

## SECTION - A

**Single answer type question. Attempt any seven question :-**

**Marks :  $1 \times 7 = 7$**

- The region just outside the seminiferous tubules contain
  - interstitial cells and Sertoli cells
  - small blood vessels, but lack Leydig cells
  - Both interstitial cells and small blood vessels
  - Sertoli cells, interstitial cells and make germ cells
- The function of Sertoli cells found in testes is
  - to synthesise and secrete testicular hormones
  - production and sperms after meiotic differentiation
  - to provide nutrition to the developing spermatogonia
  - to secrete mucus that help in lubrication of penis
- Which of the following statement is incorrect ?
  - Each ovary is about 2 – 4 cm in length and is connected to the pelvic wall and uterus by ligaments
  - Each ovary is covered by a thin epithelium which encloses the ovarian stroma
  - Ovaries do not produce any steroid hormones
  - The stroma of ovary is divided into a peripheral cortex and an inner medulla
- Which of the following is correct regarding hymen ?
  - it is a tiny finger – like structure present at the junction of two habia minora
  - it completely cover the vaginal opening
  - Hymen tears at the first intercourse only
  - the insertion of a vaginal tampon can also break the hymen
- Which of the following is an incorrect match pair ?
  - Spermatogonia – Produce diploid spermatocyte
  - Spermatids – Undergoes spermiogenesis
  - Spermatozoa – Produces sperms by mitotic differentiation
  - Secondary spermatocytes – Undergoes 2<sup>nd</sup> meiotic division to produce spermatid
- Given below are few statements regarding ovarian follicle. Which of the following statement is incorrect ?
  - At the time of puberty, each ovary contains about 60, 000 – 80,000 primary follicles
  - The theca layer differentiate into theca externa (outer) and theca interna (inner) in tertiary follicle
  - The primary oocyte completes the first meiotic division at the stage of secondary follicle
  - the ovulation include rupture of Graafian follicle and the release of ovum
- Stages in menstrual cycle are
  - recovery and proliferative phase only
  - proliferative and secretory phase only
  - proliferative, secretory and menstrual phase
  - recovery, secretory and phase of menstrual flow
- Ovulation occurs on the 14<sup>th</sup> day of the menstrual cycle. During ovulation, the level of
  - oestrogen increases, while level of LH and FSH decreases
  - progesterone and oestrogen decreases, while level of FSH and LH increases
  - oestrogen, LH and FSH increases, while level of progesterone remain same
  - progesterone decreases, while level of LH, FSH and oestrogen increases
- Which of the following is a correct option ?
  - Zygote → Morula [16 blastomeres] → Blastocyst [32 blastomeres]

- (b) Zygote →Blastocyst [16 blastomeres] →Morula [32 blastomeres]
  - (c) Zygote → Blastocyst [ 8 blastomeres] →Morula [16 blastomeres]
  - (d) Zygote → Morula [ 18 blastomeres] →Blastocyst [ 16 blastomeres]
10. The parturition is induced by a complex neuroendocrine mechanisms involving
- (a)oxytocin –only
  - (b) oxytocin and oestrogens only
  - (c) oestrogens, oxytocin and relaxin
  - (d) cortisol, oestrogens and oxytocin

### SECTION - B

**Short answer type question. Attempt any one question :-**

**Marks : 1 × 3 = 3**

11. State the significance of the following stage during the lifetime of a female.  
(A) Menarche (B) Menopause
12. What is foetal ejection reflex ? How does it cause parturition ?

**Long answer type question. Attempt any two question :-**

**Marks : 2 × 5 = 10**

13. Define Fertilization ? How many spermatozoa does one secondary spermatocytes produce .
14. What is the menstrual cycle ? Name the hormones which control the menstrual cycle .
15. Explain in detail the various developmental stages of the zygote until implantation with suitable diagrams .

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