



**Q1. Select the correct answer for each of the following: (60 Mark)**

**1. The effective treatment of follicular cystic ovary is the administration of:**

- a. FSH                      b. PGF2 $\alpha$                       c. Estrogen                      d. hCG

**2. Which of the following disorders is related to early embryonic death:**

- a. Delay ovulation                      b. Cystic ovary                      c. Ovarobursal adhesions                      d. Endometritis

**3. The effective treatment of pyometra is the administration of:**

- a. PMSG                      b. PGF2 $\alpha$                       c. Estrogen                      d. hCG

**4. In which female animal the ovulation is categorized as induced:**

- a. Rats                      b. She-camel                      c. Sow                      d. Mare

**5. One of the following hormones is not used for the treatment of inactive ovaries:**

- a. LH                      b. GnRH                      c. PMSG                      d. FSH

**6. The inflammation of the entire thickness of the uterine wall is called**

- a. Endometritis                      b. Metritis                      c. Peri-metritis                      d. Chronic endometritis

**7. Hypoplastic ovaries can**

- a. be treated with PMSG                      b. be treated with FSH                      c. be treated with GnRH                      d. not be treated

**8. Anestrus is not related to one of the listed genital disorders:**

- a. In active ovaries                      b. Luteal cystic ovary                      c. Persistent corpus luteum                      d. Follicular cystic ovary

**9. The repeat breeder cow is characterized by**

- a. Regular estrus                      b. Silent estrus                      c. Anestrus                      d. Irregular estrus

**10. The specific maturation sign of the cultured oocyte is the presence of:**

- a. Polar body                      b. Pronuclei                      c. Sperm heads.                      d. Sperm tail.

**11. The conventional method of IVF Invirto Fertilization includes:**

- a. Injection of a sperm head into an oocyte                      b. Incubation of oocytes with a sperm  
c. Incubation of oocytes with sperms                      d. Incubation of an oocyte with a sperm

**12. Before the process of freezing, embryos should be dehydrated using**

- a. PBS                      b. BSA                      c. EmbryoGlue                      d. Glycerol 10%

**13. IVF Invirto Fertilization culture is ended with:**

- a. Zygote                      b. Matured oocytes                      c. Blastocyst                      d. Morula

**14. At embryo transfer, embryos are collected from:**

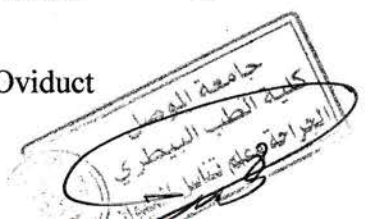
- a. Uterine horn                      b. Cervix                      c. Vagina                      d. Oviduct

**15. Embryo Transfer involves the collection of:**

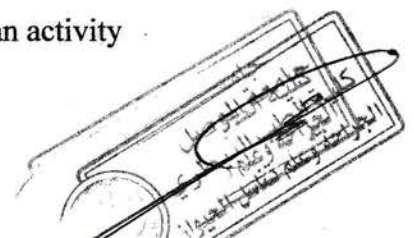
- a. Fetuses                      b. Oocytes                      c. Blastocytes                      d. Morula

**16. Oophoritis is the inflammation of:**

- a. Corpus Luteum                      b. Oocyte                      c. Ovary                      d. Oviduct



17. The ovulated follicle forms a temporary structure called  
 a. Corpus Luteum      b. Tertiary follicle      c. Corpus albicans      d. Corpus hemorrhagicum
18. Cows suffering from mummified fetuses can be treated with:  
 a. Oxytocin      b. PGF<sub>2</sub>α      c. PMSG      d. Progesterone
19. The equine's embryo reaches the uterus approximately at the days  
 a. 5-6      b. 3-4      c. 7-8      d. 1-3
20. In bitches, the period of inter-estrus may last 6 months which include  
 a. diestrus & anestrus      b. diestrus & estrus      c. diestrus & proestrus
21. In mares, induction of true estrus during the season can be achieved using  
 a. LH      b. ACTH      c. PGF<sub>2</sub>α      d. Uterine washing
22. The type of placenta in the She-camel is:  
 a. Cotyledonary      b. Zonary      c. Diffuse      d. Discoid
23. In pregnant cow the vaginal mucous membrane appears  
 a. Congested      b. Pale and dry      c. Moist      d. Edematous
24. Silent heat is one of the most important phenomena in:  
 a. Cow      b. Camel      c. Buffalo      d. Mares
25. The type of estrus in she-camel is:  
 a. Seasonally poly-estrus      b. Poly-estrus      c. Seasonal mono-estrus      d. Mono estrus
26. Cystic corpus luteum in the cow causes  
 a. Infertility      b. No effect on the fertility      c. Repeated estrus      d. Anestrus
27. Delayed ovulation can be treated by:  
 a. FSH      b. hCG      c. PMSG      d. PGF<sub>2</sub>α
28. Metestrous bleeding is a physiological phenomenon that occurs in:  
 a. Mare      b. Bitch      c. Cow      d. She camel
29. In mare, PGF<sub>2</sub>α can effectively use to induce abortion around the day  
 a. 150      b. 55      c. 305      d. 100
30. Cows affected with bilateral ovarian aplasia are:  
 a. Fertile      b. Infertile      c. Sterile      d. Repeated breeder
31. In ewes, during early pregnancy the source of interferon-tau is the:  
 a. Ovary      b. Bloodstream      c. Trophoblast      d. Uterus
32. At rectal palpation in cows, the guide to the uterus is:  
 a. Cervix      b. Uterine bifurcation      c. Ovaries      d. Vagina
33. In cows, to produce luteolysis, PGF<sub>2</sub>α transports to the ovary via:  
 a. Countercurrent exchange      b. PGF<sub>2</sub>α is locally produces  
 c. Systemic circulation.      d. Oviduct.
34. GnRH is used for estrus synchronization as it causes  
 a. Follicular growth      b. luteolysis      c. Ovulation      d. Suppress ovarian activity



35. **PGF2 $\alpha$**  is used for estrus synchronization as it causes  
 a. Follicular growth    b. Luteolysis    c. Ovulation    d. Suppress ovarian activity
36. In cows, the first estrus after calving might be short and silent results in the low level of  
 a. LH    b. Oxytocin    c. Progesterone    d. FSH
37. Evisceration is the process by which  
 a. Gases are removed from fetal body    b. Fluids are removed from fetal body  
 c. Abdominal organs are withdrawn    d. Fetal head is removed
38. At parturition, the effect of Ferguson's reflex is to increase the secretion of  
 a. Estrogen    b. Oxytocin    c. PGF2 $\alpha$     d. GnRH
39. At luteolysis, the source of oxytocin is the:  
 a. Uterus    b. Bloodstream    c. Pituitary gland    d. Corpus luteum
40. The initial treatment step for ring womb is:  
 a. Obstetrical manueuvers    b. Caesarean section    c. Hormonal treatment    d. Fetotomy
41. Relaxin is responsible for  
 a. Expansion of pelvis    b. Uterine contractions    c. Luteolysis    d. Luteogenesis.
42. eCG has biologic activities similar to:  
 a. HCG    b. LH    c. FSH and LH    d. GnRH
43. In cows, at the 2<sup>nd</sup> - 3<sup>ed</sup> days after birth, lochia becomes:  
 a. Mucopurulent    b. Bloody stained    c. Mucoïd    d. Watery
44. The type of placentation in goats is:  
 a. Zonary    b. Diffuse    c. Discoid    d. Cotyledonary
45. In cows, uterine prolapse might occurs:  
 a. Pre-partum    b. Post-mating    c. Postpartum    d. After caesarean section.
46. Which one of these cases causes anestrus?  
 a. Paraovarian cyst    b. Follicular cyst    c. Delayed ovulation    d. Luteal cyst
47. Oxytocin is secreted from:  
 a. Posterior pituitary gland    b. Pineal gland    c. Uterus    d. Anterior pituitary gland
48. Specify the method that could not be applied for semen collection in bull:  
 a. Electroejaculation    b. Condom    c. Direct Method    d. Rectal massage
49. Identify the method that could not be applied for semen collection from stallions:  
 a. Artificial vagina    b. Condom    c. Direct method    d. Rectal massage
50. Laparoscopic insemination involves the direct deposition of semen into the:  
 a. Cervix    b. Vagina    c. Uterine horn    d. Oviduct
51. Which of the following signs is not related with estrum cow?  
 a. Bellowing    b. Increased Activity    c. Paleness of vaginal mucosa    d. Swelling of a vulva
52. Semen sample might be mixed with urine when semen is collected by:  
 a. Artificial Vagina    b. Trans-rectal massage    c. Surgical method    d. Condom



53. A sperm with a double middle piece is likely to occur during:

- a. Overheating      b. Spermatogenesis      c. Rough manipulation      d. Ejaculation

54. The accumulation of gas in the fetal body is called:

- a. Ascites      b. Anasarca      c. Emphysema      d. Hydropsy

55. The fluid-filled stage of early embryonic development is called

- a. Morula      b. Zygote      c. Gastrula      d. Blastocyst

56. In white heifer disease, the ovaries are:

- a. Hypoplasia      b. Hyperplasia      c. Normal      d. Aplasia

57. The Wolffian duct is responsible for the development of

- a. Placenta      b. Male organs      c. Female organs      d. Umbilical cord

58. In advanced pregnancy, the main source of the allantoic fluid is

- a. Blood circulation      b. Fetal urine      c. Maternal urine      d. Nasopharynx secretion

59. The maneuvers used to correct the ventral position is called

- a. Extension      b. Traction      c. Retropulsion      d. Rotation

60. Progesterone assay cannot be used for pregnancy diagnose in


- a. Cow      b. Mare      c. Ewe      d. Bitch

Q2. Answer with True or False

(40 Marks)

1. Ovarobursal adhesions are among the non-treatable congenital causes of infertility.
2. Fetal expulsion is the second stage of parturition.
3. In mares, the accessory corpora lutea are responsible for the production of PGF<sub>2α</sub>.
4. Diluted semen is used to determine the mass motility of sperm.
5. Embryo flushing is the process of embryo collection from the recipient cows.
6. Sperm abnormalities are classified into primary and secondary.
7. In males, the onset of puberty is manifested by a decreased sexual desire.
8. Individual sperm motility is one of the macroscopic examinations of semen samples.
9. The Leydig cells are responsible for sperm's nutrition.
10. It is important to re-examine the long-term stored frozen semen after thawing.
11. Seminal plasma is mainly produced by the epididymis.
12. The normal individual sperm motility usually expressed as "dark wave motion".
13. The ovulation in cows occurs at the metestrus period.
14. Ankyloses means rigidity of fetal joints.
15. Alive sperms can be easily recognized by Eosin staining with pink heads.
16. Sertoli cells are responsible for sperm production.
17. Primordial follicle is comprised of an oocyte surrounded by numerous granulosa cells.
18. The formula used to determine the fetal calve age is  $(X = 2.5 (CRL+21))$ .



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19. Hypoplastic ovaries contain different stages of follicle growth.
  20. Repeat breeding might occur as a consequence of ovaro-bursal adhesions.
  21. Semen collection by trans-rectal massage is mainly applied in Bulls.
  22. A female with a temporal inability to reproduce is called sterile.
  23. Imperforated hymen is usually diagnosed in cases of freemartin disease.
  24. White heifer disease is among the acquired anatomical defects.
  25. Hypoplastic ovaries are among the untreatable causes of sterility.
  26. Electro-ejaculator can be used for semen collection from stallion.
  27. Females affected with the bilateral ovarian aplasia are sterile.
  28. The acrosome reaction is an essential process which increases sperm motility.
  29. In the monozygotic twins, the fetuses share a single placenta.
  30. In ewes, the uterine caruncles are convex while the cotyledons are concave.
  31. Mass motility is used to assess the normal and abnormal sperm's motility.
  32. White streaks are observed on the chorioallantoic sac serving as a source of glycogen.
  33. The nature of the allantoic fluid is clear and mucoid.
  34. Oxytocin should be administrated after the treatment of uterine prolapse.
  35. During the CS operation the uterine incision is usually closed with lockstitch suture.
  36. The pineal gland is the main regulatory organ in seasonality.
  37. Luteal cystic ovaries are treated with LH.
  38. The repeat breeder cow expresses prolonged estrus cycles.
  39. Lack of sperms in a semen sample is termed as Aspermia.
  40. The lack of uterine contraction during or after parturition is called ring womb.