Tikrit University
College of Veterinary Medicine

Dept. of. *Pathology and Poultry diseases*

Class : 5th Stage
Subject: Male Fertility

Questions Bank

Male Fertility

Q1// correct the following sentences: (chose 5)

1- Spermiation is the process in which the spermatogonia are released from the protective Sertoli cells into the lumen of the seminiferous tubule.

2- The duration of spermatogenesis, i.e. the time between spermatogonial divisions and the release of the primary spermatocyte, is approximately 60 days .

3- The time between two successive appearances of the same cellular associations at a given location in the seminiferous tubules is spermatogenic waves.

4- Fructose is the fluid portion of semen.

5- Proximal centriole is that part of sperm which covers the anterior part of sperm nucleus and contain enzyme needed foe penetration zona pellucida.

6- Mitochondrial sheath is the thickened part of the spermatozoal head that contains enzymes which convert energy substrate to high energy compound that can be used by spermatozoa.

Q2// answer the following:

a- Define 1- Blood-testis barrier 2- feedback mechanism

b- Write briefly about spermatogenesis.

Q3// Enumerate the following: Types of sperm abnormality.

A- Seminal plasma compounds.

B- Draw microscopic structure of spermatozoa

Q4// Write short note about the hormonal control of reproduction in male. 14 M.

Q5// Explain ((The spermatozoa may remain fertile up to 60 days during stored in epididymis while in fresh ejaculate semen it will be fertile only a few hours)).

Q6// Enumerate the factors that affect sperm metabolism and mention those factors that prolong the fertilizing life of the sperm. 10 M.

Q7// Answer the following:

a- Enumerate some of definitions have been given the term puberty in male.

b- Explain the influence of hypothalamus to initiate puberty in male.

Q8// Fill the following blanks: (chose 5) .

7- ---------- the process in which the mature spermatozoa are released from the protective Sertoli cells into the lumen of the seminiferous tubule.

(Spermatogenesis, meiosis, spermiation, steroidogenesis)

8- The duration of spermatogenesis, i.e. the time between spermatogonial divisions and the release of the spermatozoa, is approximately ---------- in most domestic animals.

(30 days, 60 days, 120 days, 14 days)

9- The time between two successive appearances of the same cellular associations at a given location in the seminiferous tubules is ----------.

(Seminiferous epithelial cyclic, spermatogenic waves, spermatogenesis, spermiation)

10---------- is the fluid portion of semen.

(Seminal plasma, spermatozoa, seminiferous tubule, blood serum)

11---------- Is that part of sperm which covers the anterior part of sperm nucleus and contain enzyme needed foe penetration zona pellucida.

(Mitochondrial sheath, proximal centriole, acrosome, post nuclear caps)

12----------is the thickened part of the tail that contains enzymes which convert energy substrate to high energy compound that can be used by spermatozoa.

(Main piece, proximal centriole, axial filament, mitochondrial sheath)

Q9// Define following: (chose 4)

Blood-testis barrier:

1- Spermiogenesis:

2- Spermatocytogenesis:

3- Spermatogenesis:

4- Negative feedback mechanism:

Q10// Enumerate one of the following:

C- Types of sperm abnormality.

D- Seminal plasma compounds.

Q11// Write short note about the hormonal control of reproduction in male. .

Q12// Explain the following:.

A- The spermatogenesis is continuous process throughout the life of animals.

B- The spermatozoa may remain fertile up to 60 days during stored in epididymis while in fresh ejaculate semen it will be fertile only a few hours.

Q13// Enumerate the factors effect metabolism rate of sperm that can be used for extend fertile life of semen. 10 M.

Q14// chose tow of the following: 10 M.

A- How can you differentiate between puberty and maturity in male?

B- Enumerate some of definitions have been given the term puberty in male.

C- Explain the influence of hypothalamus to initiate puberty in male.

Q15// Fill the following blanks: (chose 10) 20 M.

1- The combination stain of …….. is the most commonly stain used for evaluate the dead and live sperm.

2- The normal individual motility of sperm characterized by ……..

3- the ……..…….. can be determined immediately after collection by used graduate test tube

4- …….. can be done by hemocytometer and spectrophotometer

5- …….. Is that examination which can be done by placing a drop of fresh semen on the slide and examined under low power lens.

6- …….. is that process which achieved by placed the freezing straw in warm water bath for 30 seconds before loaded in insemination gun.

7- Within the female reproductive tract, the spermatozoa are lost by many ways which are Physical barrier including …….. and phagocytosis by ……..

8- …….. is the process in which the mature spermatozoa are released from the protective Sertoli cells into the lumen of the seminiferous tubule.

9- The duration of spermatogenesis, i.e. the time between spermatogonial divisions and the release of the spermatozoa, is approximately ..... in most domestic animals.

10- ..... is the fluid portion of semen.

11- In the male, the onset of puberty is brought about because of decreased hypothalamic sensitivity to negative feedback by .....

Q16// Answer the following: (10M).

a- Draw the structural diagram of spermatozoon.

b- Explain the effect of temperature, antibiotics and pH in sperm metabolism.

Q17// Enumerate the following: (chose two) 20M.

1- Properties of good semen diluters.

2- Composition of Yolk-citrate extender. Mention the benefit of each one.

3- methods of semen storage

Q18// Explain in diagram the steps of spermatogenesis. (10M).

Q19// Definethe following (chose 5) 20M.

1- Blood-testis barrier 2- puberty in male 3- spermatogenic waves,

4- Balanoposthitis 5- Paraphimosis 6- Cryptorchidism

Q20// Explain the following: chose two (10M).

1- ((The spermatozoa may remain fertile up to 60 days during stored in epididymis)).
2- The spermatogenesis is continuous process throughout the life of animals.
3- role of sertoli cell and epididymis in male reproduction

Q 21/ Enumerate the advantages and disadvantage of the following methods: (chose two).

1- Semen collection by Artificial vagina

2- Recto-vaginal insemination technique

3- Seminal packaging in straws

Q22/ Answer with false and true and correct the wrong sentences (chose 5) 20 M.

1- The combination stain of eosin – nigrosin is the most commonly stain used for evaluate the dead and live sperm.
2- The normal individual motility of sperm characterized by wave motion motility.
3- The volume of semen ejaculate can be determined immediately after collection by used graduate test tube.
4- sperm volume can be done by hemocytometer and spectrophotometer
5- Mass motility is that examination which can be done by placing a drop of fresh semen on the slide and examined under low power lenss.
6- Thawing is that process which achieved by placed the freezing straw in warm water bath for 30 seconds before loaded in insemination gun.
7- Within the female reproductive tract, the spermatozoa are lost by many way which are Physical barrier including the cervix and phagocytosis

8- Spermiogenesis is the process in which the mature spermatozoa are released from the protective Sertoli cells into the lumen of the seminiferous tubule.

9- The duration of spermatogenesis, i.e. the time between spermatogonial divisions and the release of the spermatozoa, is approximately 60 days in most domestic animals.

10- Seminal plasma is the fluid portion of semen.

11- In the male, the onset of puberty is brought about because of decreased hypothalamic sensitivity to negative feedback by progesterone.

Q23// Draw the structural diagram of spermatozoon. 10M.

Q24// Enumerate the following: (chose two) 10M.

1- Properties of good semen diluters.

2- Composition of whole milk extender and mention the benefit of each one.

3- Factors effect on pubertal age in male.

Q25// write about the main process of spermatogenesis. 10M.

Q26// Define the following: (chose 5) 20M.

1-Blood-testis barrier 2- ICSH 3- Spermatogenic cycle

4-Orchitis 5- Phimosis 6- Azoospermia

Q27//Answer the following: (chose two) 10M.

1- Mention the role of Leydig cell and anterior loop of pituitary in male reproduction

2- Enumerate the factors that affect sperm metabolism

3- Enumerate the methods of semen storage

Q28// Explain the following: 10M.

1-((In fresh ejaculate semen the spermatozoa will be fertile only a few hours)).

2-The spermatogenesis is continuous process throughout the life of animals.

Q29// Mention the advantages and disadvantage of the following methods: (chose two) 10M.

1- Semen collection by electro-ejaculation.

2- Cervical insemination technique.

3- Seminal packaging in pellets.

30// Questions of First lecture/ puberty and maturity

1- Define: puberty

2- Explain the hormonal control of puberty in male.

3- Enumerate factors that effect on puberty.

4- Enumerate some definitions for the onset of puberty in male.

31//Questions of second lecture (hormonal controle of reproduction in male)

1- Explain the hormonal control of male reproduction?

2- The main fuction of lydic cells are .....

3- High production of testosterone in testes lead to negative feed back mechanism on .....

4- Enumerate the role of testosterone in male reproduction ?

32//Question of third lecture ((spermatogenesis))

1- ..... is the basic process of male reproduction, resulting in the production of spermatozoa from the spermatogonia.

2- Seminiferous epithelium is separated into apical and basal compartments by the ..... which formed by specialized tight-cell like junctions between sertoli cell.

Q33/ Explain: (spermatogenesis is a continuous process throughout the male life)

Q34/ Enumerate the main stages of spermatogenesis.

Q35/ Define: spermiation , spermiogenesis

36// Question of fourth and fifth lecture Semen composition and metabolism rate

1- Semen are composed from _____&_____

2- Draw normal morphology of sperm in bull

3- Enumerate the structure of sperm

4- Classified the abnormal morphology of spermatozoa

5- Seminal plasma is the fluid portion of semen and it comes from ..... and .....

6- Enumerate the composition of seminal (write example for each component)

7- ---------- , ----------, ---------- are the main energy substrate in seminal plasma.

8- ---------- is one energy substrate which can be used by sperm under aerobic and non-aerobic condition, while the ---------- and ---------- can be utilized only under aerobic condition.

9- ---------- is the form of energy that can be used by sperm.

10- In epididymis, sperm may remain fertile for up to 60 days while in outside body remain only for few minutes (why?).

11-Enumerate the factors affect metabolism rate of sperm.

Q37//Question of third lecture: ((spermatogenesis))

1- ..... is the basic process of male reproduction, resulting in the production of spermatozoa from the spermatogonia.

2- Seminiferous epithelium is separated into apical and basal compartments by the …… which formed by specialized tight-cell like junctions between sertoli cell.

Q38// Explain: (spermatogenesis is a continuous process throughout the male life)

Q39// Enumerate the main stages of spermatogenesis.

Q40// Define: spermiation , spermiogenesis

41// Question of fourth and fifth lecture: Semen composition and metabolism rate

12- Semenarecomposedfrom _____&_____

13-Draw normal morphology of sperm in bull

14-Enumerate the structure of sperm

15-Classified the abnormal morphology of spermatozoa

16-Seminal plasma is the fluid portion of semen and it comes from …… and ……..

17-Enumerate the composition of seminal (write example for each component)

18---------- , ----------, ---------- are the main energy substrate in seminal plasma.

19---------- is one energy substrate which can be used by sperm under aerobic and non-aerobic condition, while the ---------- and ---------- can be utilized only under aerobic condition.

20---------- is the form of energy that can be used by sperm.

21-In epididymis, sperm may remain fertile for up to 60 days while in outside body remain only for few minutes (why?).

22-Enumerate the factors affect metabolism rate of sperm.

41// Question of sixth and seventh lecture :Semen collection and semen evaluation

Q42// Fill the following blanks: (chose 5) 20 M.

1- The combination stain of eosin - nigrosin is the most commonly stain used for .....

2- The normal individual motility of sperm characterized by .....

3- the volume of semen ejaculate can be determined immediately after collection by used .....

4- sperm concentration can be done by ………………….. and ………………………

5- The primary abnormalities of spermatozoa include 1…………….….. 2…………… 3……………..

6- ………………. Is that examination which can be done by placing a drop of semen on the slide and examined under low power

7- ………………. is the most commonly technique used to artificially inseminate cattle.

Q43// Enumerate the advantages and disadvantage of the Semen collection by Artificial vagina and E.E

Q44/ enumerate the visual and microscopical examination of semen

Q45// enumerate the effective diluters for bull semen with advantage and disadvantages of each one

Q46// Calculate the volume of diluter which needed for dilution of an ejaculate (volume = 7.5 ml, Concentration = 2 x 10^9, Motility = 80 %) to produce 0.5 ml straws with $10*10^6$ sperm

Q 47// Enumerate

1- Methods of semen evaluation

2- Effective diluters for bull semen

3- Steps of bull semen processing

Q48// Mention the properties of agood semen diluter .

Q49// full the following blanks:

1- The main disadvantage of vaginal insemination in cattle are .....

2-..... is the most commonly technique used to artificially inseminate cattle.

3- ..... is that process which achieved by placed the freezing straw in warm water bath for 30 seconds before loaded in insemination gun.

4- ..... is that method of artificial insemination which a accomplished by inserting sterile speculum into vagina with the use of light source.

5- Within the female reproductive tract, the spermatozoa are lost by many way which are .....

6- The optimum time to inseminate cow is .....

7- After natural insemination the spermatozoa transport speedily through reproductive tract (about 2 to 10 minutes) by .....

8- Various anatomic and physiologic barriers in the female reproductive tract (like cervix) have many benefit which are:.....

Q50/ Enumerate the methods of semen storage and mention the factors which depend it for prolong fertilization life of sperm in each method.

Q51// Write briefly about the glycerolation and equilibration