

Theoretical Examination of reproductive technologies

Time:1hr.

A

2nd semester

Q1- Enumerate the following : .(15)

- 1- the types of probes that used in obstetrics and mention the properties of them.
- enumerate the advantages of Estrus synchronization in cattle

Q2- discussed the following: . (15)

- 1- ((in estrus synchronization by prostaglandin, one injection is not sufficient)).
- 2- The term of ((ovosynch))

Q3- Answer the following : . (30)

- 1- writes about the limitations of General Ultrasound Imaging?
- 2- enumerate Non-hormonal methods for estrus synchronization in ewes and mention the mode action of one of them
- 3- mention the signs of the embryo's viability by ultrasound.

Q4- put (T) or (F) and correct the false sentences? (40)

- 1- sonography is a medical test that uses high-frequency sound waves to capture live images from the outside of body.
- 2- ultrasound images are captured in real-time, therefore they can show the structure and movement of the body's internal organs, as well as blood flowing through blood vessels.
- 3- In ultrasound, lower frequencies provide better quality images but are more readily absorbed by the skin and other tissue, so they cannot penetrate as deeply as higher frequencies.

- 4- The transducer of ultrasound sends out high-frequency sound waves (that the human ear cannot hear) into the body and then listens for the returning echoes from the tissues in the body.
- 5- ultrasound can be used to detect changes in appearance, size or contour of organs, tissues, and vessels or to detect abnormal masses, such as tumors.
- 6- Doppler ultrasound, a special application of ultrasound, measures the direction and speed of blood cells as they move through vessels.
- 7- The quality of the ultrasound images depends on the user's understanding of the interactions between the ultrasound wave and the organ tissue, as well as proper use of the instrument's controls.
- 8- Ultrasonography thus presents a flattened two-dimensional image of a finely-cut section of tissue; whereas radiography is a two-dimensional superimposed view of the entire thickness of an animal or of a limb under observation.
- 9- The axial resolution is best when the groups of waves emitted have a short wavelength. And the only way to shorten their length is to use a probe with a low frequency.
- 10- With a high frequency, tissue penetration will be deep, but the resolution will be lower. A lower frequency enables better resolution, but beam attenuation will be greater and it will not penetrate the tissue as deeply.
- 11- In the ultrasound image, the **an echogenic** structure does not produce echoes; instead, it transmits the waves on to more deeply situated tissues.
- 12- An example of the an echogenic structure is corpus luteum, which appears black on the screen.
- 13- Trans abdominal scanning in ewe and doe should be ideally performed after 17 days of pregnancy .
- 14- In pregnant ewes the Placentomes appear like an echogenic densities in the uterine wall and are routinely found by 26-28 days post-breeding.
- 15- By measuring fetal membrane, fetal age in ewe and doe can also be determined by the use of real time ultrasonics at 40-100 days of gestation.

- 16- To ensure that the natural corpus luteum has regressed by the end of estrus synchronization treatment, progestagens must normally be combined with an estrogen.
- 17- in estrus synchronization the administration of PMSG when the progestagen is removed stimulates follicular maturation and ovulation.
- 18- superfecundation, is a treatment intended to increase the ovulation rate and number of available oocytes in the donor animal
- 19- eCG is a glycoprotein produced by the endometrial cups of pregnant mares.
- 20- The advantage uses of eCG in superovulation is the cheap cost and has to be administered many times to induce its effect.
- 21- The basis action of exogenous FSH in superovulation technique is to activate FSH receptors on granulosa cells of small and medium sized follicles, and to stimulate the continued growth of these follicles.

1- Enumerate the following : .(15)

- 1- benefits uses of ultrasound
- 2- enumerate the advantages of Estrus synchronization in cattle

Q2- discussed the following: . (15)

- 1- The term of ((ovosynch))
- 2- estrus synchronization by using prostaglandin out of breeding season in ewes are not benefit.

Q3- Answer the following : . (30)

- 1- enumerate Non-hormonal methods for estrus synchronization in ewes and mention the mode action of one of them
- 2- by ultrasound technique how can be seen the following structure ovarian follicles, CL, fetal fluid, fetal heart beat, caruncles, fetal bone.
- 3- In cattle the estrus synchronization by progesterone components can be done by many routes, enumerate them.

Q4- put (T) or (F) and correct the false sentences? (40)

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Good luck

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