



Menofia University
Faculty of Veterinary Medicine
Department of Theriogenology
Final Examination for Puerperal disturbances
and AI (5th year)



Course name:	Puerperal fever, AI & ET
Program:	BVSc
Date:	17 - 6 - 2023
Time allowed:	2 hours
Total score:	25 marks

Please answer all questions. من فضلك أجب على كل الأسئلة التالية

Q1: Choose the correct answer (a or b or c or d).

(1)	S-TALP is the media for			
a-	fertilization	c-	capacitation	
b-	maturation	d-	culturing	
(2)	The uterine ecboic which should be used in puerperal fever is			
a-	FSH	c-	Follotropin	
b-	Oxytocin	d-	eCG	
(3)	Method used for obtaining oocyte from slaughter house collected ovaries by syringe and needle for IVF protocol is			
a-	Slicing method	c-	Swim up method	
b-	Squeezing of ovaries	d-	Aspiration method	
(4)	The symptoms of puerperal fever in post-parturient cow include			
a-	Fever, stiffness jaw and body joint	c-	Jaundice, edema vulva	
b-	G.H.D, abnormal vaginal discharge	d-	Fever, normal vaginal secretion	
(5)	The criteria of cold shock of semen sample can be determined by			
a-	Coiled or bent tail	c-	Death of sperm	
b-	Partial or complete loss sperm motility	d-	All of them	
(6)	Alkaline methyl violet stain can be used for staining			
a-	Live and dead ratio	c-	pH semen	
b-	acrosome	d-	Sperm abnormalities	
(7)	The best method for semen collection in stallion is			
a-	AV	c-	Massage of ampullae	
b-	Spongy method	d-	Condom	
(8)	Sperm cells can be died after long standing in the laboratory due to			
a-	Collected by AV	c-	Increase in pH to alkaline	
b-	Accumulation of lactic acid	d-	All of them	
(9)	After superovulation and insemination of donor cow, the formed CL was 8 in both ovaries, so the collected embryo after flushing donor cow will be.....			
a-	12 blastocysts	c-	6- 8 blastocysts	
b-	10 blastocysts	d-	16 blastocysts	
(10)	You should isolate pregnant cow from mares during parturition to avoid			
a-	puerperal fever	c-	puerperal malignant edema	
b-	puerperal intoxication	d-	puerperal tetanus	

(11) The Indian ink (opal blue) stain can be used for staining			
a-	Protoplasmic droplet	c-	Live and dead ratio
b-	acrosome	d-	Sperm abnormalities
(12) Higher temperature of inner sleeve of AV during collection can result in			
a-	Orchitis	c-	Inflammation prepuce
b-	Penile burning with impotantia	d-	All of them
(13) The Eosin- Nigrosine stain can be used to examine bull ejaculate for			
a-	Sperm abnormalities	c-	Live and dead ratio
b-	Semen pH	d-	None of them
(14) Application of special fine latex rubber bag over the completely erected penis before mounting and used in stallion is			
a-	Gloved hand technique	c-	condom
b-	Masturbation	d-	AV
(15) The acrosomal enzyme which help the sperm for penetration of cumulus oophrous and zona pellucida are			
a-	hyaluronidase	c-	phospholipase
b-	Alkaline phosphatase	d-	catalase
(16) Method characterized by rectal manual massage of accessory genital glands results in dribbling of semen without erection			
a-	Masturbation	c-	Stripping of ampullae
b-	Manual massage of penis	d-	Gloved hand technique
(17) To examine bull ejaculate after collection for presence of any foreign body, pus cell and fecal matter, you should perform			
a-	Eosin-Nigrosine stain	c-	Indian ink stain
b-	Catalase test	d-	Gross or macroscopic examination
(18) During using of Eosin- Nigrosine stain, the dead sperm appear			
a-	Red or pink color	c-	Blue color
b-	White or colorless	d-	None of them
(19) The low amount of fructose is 2-10 mg/ 100 ml semen present in			
a-	bull	c-	buffalo-bull
b-	Stallion	d-	Ram
(20) The ideal inner side temperature of bull AV just before collection is			
a-	35 °C	c-	42 °C
b-	60-65 °C	d-	45 °C
(21) The temperature of hot water which put in the large valve of outer hard casing of AV during preparation is			
a-	100 °C	c-	80-90 °C
b-	42 °C	d-	60-65 °C
(22) Ergothionine present in seminal plasma of			
a-	Bull	c-	Ram
b-	Stallion and boar	d-	Buffalo-bull
(23) Normal semen volume in stallion is			
a-	50-150 ml	c-	500 ml
b-	250 ml	d-	6-8 ml
(24) Egg yolk coagulating enzyme present in seminal plasma of			
a-	Bull	c-	Buffalo-bull
b-	Stallion	d-	Buck (male goat)

(25) The fructolytic activity of semen is correlated to			
a-	Sperm motility	c-	Sperm viability
b-	Sperm concentration	d-	All of them
(26) The amount of oxygen (in microliters) consumed by 10^9 sperm cells incubated at 37°C for one hour is			
a-	Fructolysis index	c-	Respiratory rate (aerobic)
b-	Initial fructose	d-	Fructolytic activity
(27) Normal complete cessation of all metabolic activity of sperm cells at -196°C is			
a-	thawing	c-	cold shock
b-	cryopreservation	d-	None of them
(28) Adding the semen in hypotonic diluent (water), the sperm cell will be			
a-	dehydrated	c-	Swelling and ruptured
b-	Shrinkage	d-	All of them
(29) Normal semen volume of Bull is			
a-	6-8 ml	c-	200 ml
b-	1.5 ml	d-	50 ml
(30) Electroejaculator can be used for semen collection in			
a-	Stallion	c-	Boar
b-	Bull and donkey	d-	None of them
(31) Normal ejaculate volume of Ram is			
a-	50 ml	c-	6-8 ml
b-	1-11 ml	d-	1.5 ml
(32) Diluent which having physiologically active substance that help fertilization process is			
a-	Extender	c-	Protector
b-	Implementor	d-	None of them
(33) Gloved hand technique is a method of semen collection present in			
a-	Bull	c-	Ram
b-	Buffalo-bull	d-	Boar
(34) To overcome cold shock during processing of semen you should add			
a-	Glycerol	c-	egg yolk and milk
b-	Propylene glycol	d-	DMSO
(35) A final volume of 400 ml diluted glycerolized bull semen can be used in the form of straws (size of straw = 0.5ml) and inseminate..... Cows.			
a-	400	c-	200
b-	800	d-	800-1600
(36) The diluent which produce an opaque mixture when added to egg yolk and resulting in poor sperm visibility			
a-	TRIS	c-	Citrate diluent
b-	Phosphate diluent	d-	None of them
(37) The riboflavin and xanthine pigment which form yellowish coloration of bull semen present in			
a-	Prostate gland	c-	Seminal gland
b-	Bulbourethral gland	d-	Ampulla
(38) Normal semen volume of Buffalo-bull is			
a-	50 ml	c-	150 ml
b-	8-10 ml	d-	3-4 ml

(39) The temperature on the neck of liquid nitrogen tank is			
a-	-196 °C	c-	-79 °C
b-	-100 °C	d-	-183 °C
(40) To avoid reaction of egg yolk coagulation during semen processing of male goat bucks			
a-	Using high concentration from egg yolk	c-	Using milk diluent
b-	Adding more seminal plasma	d-	All of them
(41) The concentration of motile sperm of bull in one straw before insemination is			
a-	10 millions	c-	10-30 millions
b-	30 millions	d-	1000.000 mm ³
(42) The primary abnormalities of bull sperm result from			
a-	Testicular dysfunction	c-	Laboratory handling
b-	Semen Collection	d-	processing
(43) The dose of cervical insemination in ewe is			
a-	0.05-0.2 ml	c-	1 ml
b-	0.5 ml	d-	None of them
(44) The dose of insemination of mare with diluted liquid stallion semen is			
a-	500 ml	c-	0.5 ml
b-	200 ml	d-	20 ml
(45) The normal strong mass activity of semen of stallion is			
a-	+++ active	c-	+ poor
b-	++ low	d-	-ve absent
(46) The Stallion semen extender which composed of dry milk, glucose, sucrose, sodium bicarbonate and deionized water is called			
a-	Egg yolk phosphate	c-	Modified Kenney extender
b-	Egg yolk citrate	d-	TRIS
(47) Penetrating cryoprotectant which prevent ice crystal formation is			
a-	Sucrose	c-	Lactose
b-	DMSO	d-	Propylene glycol
(48) Semen collection from bull suffer from loss of sexual desire or impotantia coeundi can be carried out by			
a-	Condom	c-	Dummy cow
b-	AV	d-	None of them
(49) Sperm cell concentration of normal semen ejaculate of bull is			
a-	200.000-300.000/mm ³	c-	500.000/mm ³
b-	1000.000/mm ³	d-	2-3 million/ mm ³
(50) Sperm cell concentration of normal semen ejaculate of Stallion is			
a-	2-3 million/ mm ³	c-	4-5 million / mm ³
b-	1000.000/mm ³	d-	300.000-400.000/ mm ³
(51) Diluent prolonging sperm life at ambient temperature, 5 C and -196 C and good in corporation with glycerol is			
a-	Milk diluent	c-	TRIS diluent
b-	yolk citrate diluent	d-	yolk phosphate diluent
(52) The parameters for rejected (bad) bull semen sample is			
a-	normal volume with high sperm cell concentration	c-	pH = slightly acidic (6.75)
b-	The catalase number is high 400-500 with alkaline pH and abnormal color	d-	Yellowish coloration and thick consistency

(53) Normal sperm cell concentration of Ram ejaculate is			
a-	3-5 million/ mm ³	c-	200.000/mm ³
b-	1.5 ml	d-	400.000/mm ³
(54) Surgical intrauterine insemination of ewe with 0.1 ml diluted semen can be done			
a-	Vaginal method (shot in dark)	c-	Endoscopy or laparoscopic
b-	Inseminating gun and speculum	d-	None of them
(55) Inseminating sperm dose of liquid diluted semen in cow is			
a-	200 million	c-	300 million
b-	100 million	d-	10 million
(56) A method characterized by pelvic rhythmic application of electric stimulation to the nerve of genital organs results in ejaculation is			
a-	massage of ampulla	c-	electroejaculation
b-	condom	d-	Masturbation
(57) The ideal hormone used for superovulation in donor cow for ET protocol is			
a-	Follotropin (FSH)	c-	GnRH (Receptal)
b-	Estrumate (PGF2 α)	d-	eCG
(58) Embryos can be recovered from donor cow during ET protocol after breeding by			
a-	6-8 days	c-	10-12 days
b-	3-4 days	d-	None of them
(59) Hormone characterized by having long half-life and causing premature maturation and fertilization failure during superovulation protocol in donor cow is			
a-	Estrumate	c-	Receptal
b-	eCG + FSH (Follotropin)	d-	None of them
(60) Flushing medium for embryo collection from donor cow is			
a-	Lugol's iodine	c-	TCM-199
b-	Sodium citrate	d-	D-PBS
(61) Is used for collection of embryos from uterus during flushing of donor cow is			
a-	Inseminating gun	c-	Foley catheter
b-	Disposable sheath	d-	OPU
(62) A final volume of 200 ml diluted glycerolized stallion semen can inseminate mares in estrus.			
a-	10	c-	400
b-	5	d-	
(63) During flushing donor, we can collect embryos of donor cow in			
a-	Embryo cone filter (200-300 μ m)	c-	Embryo cone filter (17 μ m)
b-	Petri dish	d-	Loading in straw
(64) The best method for thawing straw before insemination done by			
a-	Put it above ear of operator	c-	Put it in shirt pocket
b-	Put it in water bath 35-37C for 30 second.	d-	Put it in sun rays
(65) An embryo has formed from fluid filled cavity with differentiation trophoblast and inner cell mass and give good result after transferring to recipient			
a-	morula	c-	8-16 cell stage
b-	Hatching blastocyst	d-	Intact blastocyst
(66) The size of collected embryo after flushing donor cow is			
a-	200-300 μ m	c-	10 μ m
b-	100 μ m	d-	500 μ m

(67)	The level of LN should be regular checked (about once a week) by		
a-	Shaking the tank	c-	Inserting a wooden ruler in tank
b-	Inserting hand in tank	d-	Weighing the tank
(68)	Normal consistency of very good and excellent semen ejaculate of stallion is		
a-	creamy	c-	thick viscous
b-	watery	d-	thick Milky
(69)	The dis-advantage of using the pellets is		
a-	Less storage place	c-	Greater live sperm recovery
b-	Need a separate extender	d-	Easy labelling
(70)	During examination of straws for normal sperm motility before insemination in the farm, the operator should examine		
a-	Mass activity	c-	Wave motion
b-	Swirls motion	d-	Individual motility
(71)	Acid Tyrodes solution is used to make a hole in the ZP to allow sperm access to the oocyte is		
a-	ZD	c-	ICSI
b-	PZD	d-	SUZI
(72)	The media used for culturing the fertilized zygote for 8 days is		
a-	TCM-199 with Earl's salt	c-	F-TALP
b-	TCM-199 with HEPES modification	d-	PBS+BSA
(73)	Extrusion of 1st polar body during IVF protocol, indicate.....		
a-	End of fertilization of matured COCs	c-	Abnormal maturation COCs
b-	Maturation of COCs	d-	None of them
(74)	The best site for insemination of cow by rectovaginal technique is		
a-	Uterine body	c-	Vagina
b-	Anterior third of cervix	d-	Uterine horn
(75)	The microorganism which can form diphtheritic inflammation, necrosis and affect the puerperium period in post-parturient cow is		
a-	Pseudomonas aureogenosa	c-	Bacillus necrophorus
b-	Clostridia Septicum	d-	Corynebacterium

Q2. Please select True (T) or False (F) for suitable answer.

1	The first ejaculate of bull is very good in quantity and quality.
2	Puerperal fever is entrance of pathogenic bacteria in the uterus after parturition from outside causing general health disturbance, edema of genitalia and fever.
3	Puerperal fever can be treated by massive doses of local and systemic antibiotics + electrolyte therapy + oxytocin and general tonics.
4	Missouri and Colorado AV are types of AV of the ram.
5	Prophylactic dose of anti-tetanic serum can be injected directly in mare after foaling to prevent puerperal intoxication.

6	The advantages of using of AI are genetic improvement and efficient use of male by one ejaculate can be diluted 400-500 times.
7	The sperm can remain alive in ampulla for 72 hours only due to high amount of fructose and citrate with low temperature.
8	The dis-advantages of AI are difficulty in detection of heat (estrus) in some animals and need trained person during insemination.
9	OPU can be used to obtain COCs from ovaries of animals in the abattoir.
10	Fructolysis index is the amount of fructose in mg consumed by 10^9 motile sperm incubated at 37 °C for one hour and is 1.5-2 mg in ruminants.
11	The semen of stallion is rich in ergothionine and citric acid with low fructose content.
12	Spermiogenesis is the metamorphosis of spermatids into sperm and can take 15 days.
13	The whole milk should be heated 92-95 C to inactivate the toxic factor in its protein fraction and destruction of lactenin enzyme which is spermicidal.
14	Mass activity of semen is the wave or swirls motion of undiluted semen and examined directly after collection.
15	Initial fructose content is the amount of fructose in mg in 100 ml semen immediately after collection and indicate normal 2 nd sexual character of bull.
16	Puerperal intoxication is increased number of saprophytic bacteria due to bad interference of farmer during dystocia.
17	The pellets can be thawed in 0.8 ml of sodium citrate (2.9%) heated at 38 °C and insemination can be done by catheter with a dose of 30×10^6 sperm.
18	The individual motility of sperm can be hardly examined in milk diluent due to high phosphate content.
19	The semen of buffalo-bull which collected by AV contain high amount of catalase enzyme.
20	Puerperal tetanus can occur in mares and ewes within 2-3 weeks after birth with stiffness of body joint especially jaw.

21	Opal blue stain or Indian ink stain is used for detection of epididymitis.
22	Protoplasmic droplet is the remnant of Golgi apparatus during metamorphosis of spermatid to sperm.
23	Spermatocytogenesis in bull can take two months for production of sperms.
24	Spermatogenesis in bull can take 45-49 day for production of sperms.
25	TCM-199 with Earls salt is the media for oocyte maturation of COCs.

With my best wishes
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Associate professor of Theriogenology

