

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY

FIRST SEMESTER FINAL EXAMINATION –2021

DEPARTMENT OF AGRICULTURE – 3RD YEAR DEGREE

AG 311 – ANIMAL MANAGEMENT I

TIME ALLOWED:- 3 HOURS. TOTAL MARKS = 100

INFORMATION FOR CANDIDATES:

1. You have 10 minutes to read the paper. You must not begin writing during this time
2. This exam paper has a total of 43 questions on 9 pages (including front page).
3. Answer all questions in sequential order
4. All answers must be written in the answer book. No other written material will be accepted
5. This is a closed book exam. Slide rules, calculators and log tables are permitted in the examination room. Notes, textbooks and other recording devices (e.g. mobile phones) are not allowed
6. Write your name and number clearly on the front page of the answer book. Do it now.
7. Marks for each question are shown in parenthesis at the end of each question.

**Question 1 to 40 are multiple choice questions. Answer all questions. 1.5 marks each
total = 60 marks**

- 1) What is the term used to describe the act of parturition in horses?
 - a) Farrowing
 - b) Lambing
 - c) Foaling
 - d) Kidding

- 2) What is the term used for a castrated goat?
 - a) Wether
 - b) Gelding
 - c) Barrow
 - d) Boar

- 3) Which of these adjectives refer to goats?
 - a) Caprines
 - b) Ovines
 - c) Bovines
 - d) Equines

- 4) What is the average gestation length of cattle?
 - a) 114 days
 - b) 150 days
 - c) 280 days
 - d) 255 days

- 5) To which species do goats belong?
 - a) ovis
 - b) capra
 - c) aries
 - d) hircus

- 6) Which of the following livestock has the highest dressing percent?
 - a) cattle
 - b) pigs
 - c) sheep
 - d) horse

- 7) Which of these does not cause disease in farm animals?
 - a) Microorganisms
 - b) Poisons in feed
 - c) Insects
 - d) Genetic abnormalities

- 8) Which of the following can be used to prevent disease on animal farms? (select all correct options)
 - a) Vaccination
 - b) Minimal disease herds
 - c) Test and slaughter
 - d) Fencing

- 9) When an animal transfers an existing response to a new stimulus, this is called what?
- Genetic adaptation
 - Acclimatization
 - Conditioning
 - Homeostasis
- 10) Why is *Bos indicus* breed of cattle more adapted to tropical conditions than *Bos taurus* breed of cattle? (select all correct options)
- Bos indicus* breeds have higher sweating rate
 - Bos indicus* breed can eat both grasses and legumes
 - Bos indicus* breeds generally have lower metabolic rates
 - Bos indicus* breeds are larger in size
- 11) Which of the following characteristics of pigs influence their response to climatic factors? (Select all correct options)
- Low rate of sweating
 - Growing and adult pigs have thick subcutaneous fat cover
 - New born and very young piglets have low subcutaneous fat
 - Growing and adult pigs have low subcutaneous fat cover
- 12) The feed conversion ratio of broiler chickens is better (in terms of feed costs) when the chickens are younger
- True
 - False
- 13) A group of students were given 75 day-old broiler chicks to look after. Four of the chickens died before maturity. What is the % Livability for this group
- 4%
 - 75%
 - 94.7%
 - 5.3%
- 14) Which of the following is/are service industries which are related to poultry production? (Select all correct options)
- Poultry meat production
 - Poultry feed production
 - Table egg production
 - Hatchery and day-old chicken production
- 15) Under commercial egg production systems, at what age are layers culled normally?
- 23-24 wks
 - 60 wks
 - 80-85 wks
 - 100-110 wks
- 16) The system of rearing chickens where the birds have access to a large fenced area of grassland for finding food is called what?
- Free range
 - Free running
 - Scavenging

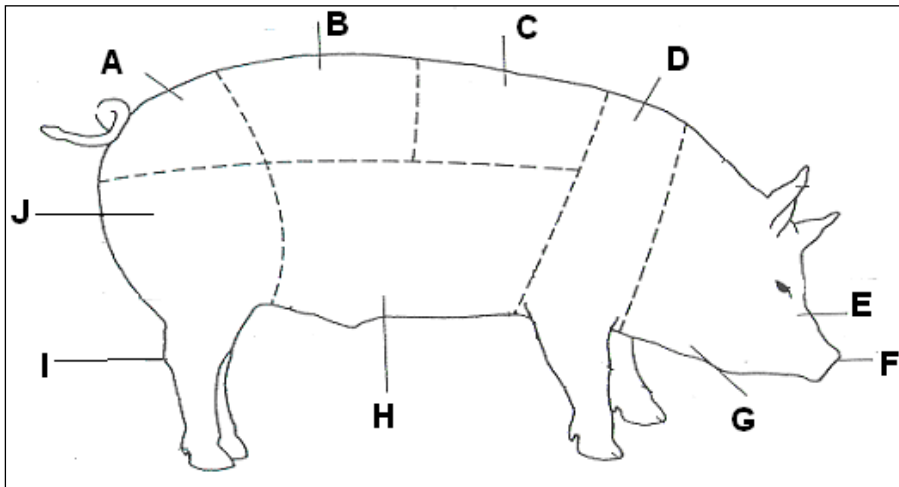
- d) Semi-intensive
- 17) In which type of production system is the welfare of layer hens maximised?
- Conventional cage system
 - Aviary
 - Enriched cage system
 - Not sure
- 18) In which part of the oviduct of a chicken is the yolk and albumen of the developing egg formed?
- Vagina
 - Magnum
 - Uterus
 - Cloaca
- 19) Broiler chicken finisher diet has lower crude protein content than the grower diet
- True
 - False
- 20) How many days average does it take to incubate and hatch eggs of turkeys
- 21 days
 - 23 days
 - 28 days
 - 30 days
- 21) Generally, the air space inside a freshly laid egg is smaller than that of egg stored for several days
- True
 - False
- 22) Hens which have not been mated to cocks will not lay eggs
- True
 - False
- 23) Why is beak trimming done for chickens
- To minimize cannibalism
 - To minimize fighting
 - To increase growth rate
 - To increase feed conversion efficiency
- 24) The hatchability of eggs incubated by a broody hen is lower than that of a large commercial incubator
- True
 - False
- 25) A farmer sets her eggs in an incubator on the 4th June. She wants to check if there are any developing embryos in the eggs. On what date should she do her candling?
- 12-13 June
 - 17-18 June
 - 24-25 June

- d) 1-2 July
- 26) To which classification order do domestic pigs belong?
- artiodactyla
 - Suidae
 - Scrofar
 - Chordata
- 27) Which of the following is/are characteristics of the extensive system of rearing pigs in developing countries? (Select all correct options)
- pigs are often tethered and allowed out only during certain periods of the day
 - capital costs are low, and there is a minimum output per unit area
 - an exercise yard is attached to the unit or pig shed
 - Family labour is often used to care for the pigs
- 28) A good pig shed must provide (select all correct options)?
- Manure disposal facilities
 - Adequate ventilation
 - Sufficient space to meet requirements
 - Protection from the elements of the weather
- 29) Sows whose piglets have just been weaned are kept in which type of pen?
- Grower pens
 - Farrowing pens
 - Dry sow pens
 - Nursery pens
- 30) Which of the following ingredients would you use as a source of energy for feeding pigs (select all correct options)?
- Corn
 - Soybean meal
 - Sweet potato
 - Limestone
- 31) At what age are piglets weaned under commercial intensive production systems?
- 2-4wks
 - 4-6wks
 - 7-8wks
 - None of the above
- 32) The practice of penning two or more sows with their litters together so that the sows can suckle any of the piglets is called what?
- Fostering
 - Multiple suckling
 - Estrus Synchronization
 - Multiple farrowing
- 33) If the average growth rate from birth to a slaughter weight of 60kg is 0.50kg/day then how many days will it take the pigs to reach slaughter weight?
- 60 days

- b) 80 days
 - c) 100 days
 - d) 120days
- 34) Which of the following is done to prevent anaemia in piglets?
- a) Creep feeding
 - b) Feeding colostrum
 - c) Multiple suckling
 - d) Iron supplementation
- 35) What happens to sows in the nursery if the temperature is above the optimum (select all correct options)?
- a) Feed intake is reduced
 - b) Tail biting increases
 - c) Milk production can decrease
 - d) Piglets become anaemic
- 36) How can piglets be protected from the sow? (select all correct options)?
- a) Provision of creep boxes
 - b) Feeding artificial colostrum
 - c) Providing infra-red heating lamps
 - d) Fostering
- 37) What are the advantages of using slotted floors for sows (select all correct options)?
- a) Reduces drafts at the floor level
 - b) Reduces amount of labour needed to remove manure
 - c) Separates sows and piglets from manure
 - d) Need to clean floor daily
- 38) What is the meaning of metritis in pigs?
- a) inflammation of mammary gland caused by bacterial infection
 - b) inflammation of reproductive tract or uterine infection
 - c) No or low milk production after farrowing
 - d) Malpresentation of piglets during farrowing
- 39) Which of the following practices are carried out on sows close to farrowing? (select all correct options)
- a) Move the sow into the farrowing house by day 110 of pregnancy
 - b) Restrict feed intake
 - c) Feed laxative diets
 - d) Wash the sows before moving them to the farrowing house
- 40) What are the signs of impending farrowing shown by sows? (select all correct options)
- a) Showing nest building behavior
 - b) Showing interest in a boar (boar test)
 - c) Reddening of the vulva
 - d) Chewing on anything available

Question 41. (10 marks)

Label the parts A to J of the pig shown below

**Question 42 ((3 marks each, total = 15 marks))**

Instructions: You must show how you worked the following problems and write down the units of measurements for all answers (where necessary) to get full credit.

The following questions relate to a woman pig farmer who is just about to start a pig farm. She intends to buy weaned pigs weighing about 22kg and grow them to market weight as porkers at a finishing weight of about 50kg.

- She manages to put up a pig shed using bush materials. The length and breadth of the shed floor are 10m and 5m respectively. Suppose an average pig at market age needs 1.9m^2 then how many market pigs can she keep in this shed? (4)
- What is the weight gain of each pig during the growing period from weaning to market weight? (4)
- Suppose the average daily gain (ADG) of a pig is 0.36kg/d, how many days will it take the farmer to grow her pigs to market weight? (4)
- Suppose she formulates her own pig feed on the farm using a combination of cooked sweet potatoes and a concentrate from NARI and the feed conversion rate (FCR) is 3.5 then how much feed will she need to feed *each* pig during the growing period? (4)
- Assuming that all the weaned pigs she bought initially will survive to market weight, calculate the total amount of feed she will need to feed the pigs. (4)

Question 43 (15 marks)

Discuss the brooding and grow-out of commercial broiler chickens under the following subtitles:

- Preparations for brooding before receiving the day-old chickens on the farm? **(4 marks)**
- Minimizing chick mortality during the brooding period **(4 marks)**

- c) Feeding of chickens after brooding till mature market weight **(4 marks)**
- d) Record keeping **(3 marks)**

END
