



**ANSWER ALL QUESTIONS BY TICKING THE CORRECT OPTION**

**SECTION A**

**A1: ANIMAL NUTRITION**

1. Which is not a parameter to be considered in feed formulation
  - a. Species/Breeds/Strain
  - b. Age
  - c. Storage Facility of Raw Materials
  - d. Reproductive Stage
  
2. What nutrient does a phytase enzyme work on
  - a. Protein
  - b. Aflatoxin
  - c. Phosphorus
  - d. Fiber
  
3. A rabbit fed 500gDm of pellet feed, voided 1kg of faeces at 90% moisture. The coefficient of digestibility is
  - a. 50%
  - b. 80%
  - c. 90%
  - d. 10%
  
4. What part of the feed mill is used in grinding materials
  - a. Grill
  - b. Hammer Mill
  - c. Mixer
  - d. Conveyors
  
5. Growers' mash should be fed to birds from what age
  - a. 2 weeks
  - b. 8 weeks
  - c. 20 weeks
  - d. 5 weeks
  
6. What is the major difference between Palm Kernel Cake and Palm Kernel Meal?
  - a. Moisture
  - b. Protein
  - c. Fiber
  - d. Fat

7. Vitamin and mineral premixes are best introduced into
  - a. Hammer Mill
  - b. Discharge Point
  - c. Mixer
  - d. Tipping Point
  
8. What are the distinguishing parameters in Full Fat Soya and Soya Bean Meal?
  - a. High Energy and High Protein
  - b. High Fat and High Fiber
  - c. High Protein and High Moisture
  - d. High Protein and High Fiber
  
9. High fat in palm kernel cake predisposes the material to
  - a. Rancidity
  - b. Weevil Infestation
  - c. Weight Loss
  - d. Pilfering
  
10. All the below stated facts are correct **EXCEPT**
  - a. Enzyme acts by lowering the reaction activation energy
  - b. Probiotics are essentially living microbes
  - c. Lowered pH enhances proliferation of pathogenic bacteria in the gut of chickens
  - d. Prebiotics are essential substrates for non pathogenic microbes.

## **A2: ANIMAL GENETICS AND BREEDING**

11. The person associated with artificial insemination is
  - a. Francis Galton
  - b. Lazzaro Spallanzani
  - c. Augustus Weismann
  - d. Jean Lanmark
  
12. One example of qualitative trait is \_\_\_\_\_
  - a. Polledness
  - b. Plumage
  - c. Polydactyl
  - d. Fertility
  
13. The major function of mitochondria is
  - a. Secretion
  - b. Protein synthesis
  - c. Respiration and provision of energy
  - d. Reproduction

14. During the normal process of growth, somatic cells multiply by the process of
- Meiosis
  - Mitosis
  - Cell division
  - Chromosomes
15. The chromosome number of cattle is \_\_\_\_\_
- 64
  - 62
  - 60
  - 58
16. The process by which RNA is produced from DNA is referred to as \_\_\_\_\_
- Translocation
  - Duplication
  - Transcription
  - Inversion
17. Three codons in the code that do not code for any amino acid are called \_\_\_\_\_
- Codons
  - Synonymy
  - Promoter
  - Nonsense
18. Given a hypothetical average daily gain of individual pigs selected from a certain population is 13.80kg and the population mean is 12.50kg. with the heritability of 0.5. Calculate the genetic response to selection.
- 0.58
  - 0.60
  - 0.65
  - 0.70

*In the herd of 100 animals, 50 were red, 25 were roan and 25 were white. Use these figures to answer questions 19 and 20*

19. What is the actual frequency of the red gene R in this herd?
- 0.256
  - 0.456
  - 0.625
  - 0.375
20. What is the actual frequency of the white gene r?
- 0.625
  - 0.456
  - 0.375
  - 0.645

### A3: ANIMAL PHYSIOLOGY AND REPRODUCTIVE PHYSIOLOGY

21. Which of these is not the young of a livestock species
- Lamb
  - Kid
  - Kitten
  - Calf
22. One of these listed below is not a type of uterus
- Duplex
  - Bicornuate
  - Bipartite
  - Endometrus
23. The factors that affect puberty of farm animals include all except
- Sex
  - Nutrition
  - Climate
  - All of the above
24. The function of oestrogen include all except
- Stimulation of uterine growth
  - Inhibition of luteinizing hormone
  - Associate with female secondary sex characteristics
  - Triggers the cornification of vaginal epithelium
25. Arrange the gestation length in decreasing order
- Calf – kid – Piglet - Kit
  - Kid – Calf – kid – Piglet
  - Piglet – Calf – Kit – kid
  - Kid – Calf – Kit – Piglet
26. The normal sequence of male reproductive behavior includes
- Courtship, erection, mounting, intromission, ejaculation and dismounting
  - Courtship, mounting, intromission, erection, ejaculation and dismounting
  - Courtship, mounting, erection, ejaculation intromission and dismounting
  - Courtship, mounting, intromission erection, ejaculation and dismounting
27. Calving interval is affected by all these except
- Parity
  - Ease of calving
  - Season
  - Management
28. The release of urine into the urethra during ejaculation is prevented by
- Bladder

- b. Colliculus seminalis
  - c. Seminiferus tubule
  - d. Gland of Tyson
29. Choose the correct statement
- a. Sow has 8 – 15 teats arranged abdomino-inguinally
  - b. Doe has 8 teats arranged ventro-laterally
  - c. Ewe has 4 teats arranged inguinally
  - d. Cow has 2 teats arranged ventro-laterally
30. One of these diseases is associated with infertility in farm animals
- a. Mastitis
  - b. Anthrax
  - c. Brucellosis
  - d. Tuberculosis

#### **A4 – ANIMAL PRODUCTS AND PROCESSING**

31. Skim or whole milk can be fermented to produce therapeutic benefits in the gastrointestinal tract using:
- a. Lactobacillus acidophilus
  - b. Lactobacillus bulgaricus
  - c. Lactobacillus plantarum
  - d. Lactobacillus brevis
32. Subjecting milk to heat treatment below boiling point is called:
- a. Coagulation
  - b. Sterilization
  - c. Homogenisation
  - d. Pasteurization
33. The cream removed from surface of milk can be used for the production of:
- a. Yoghurt
  - b. Butter
  - c. Coagulant
  - d. Stabilizer
34. The chief protein in milk is known as:
- a. Lactase
  - b. Casein
  - c. Casing
  - d. Acetate
35. The enzyme naturally present in raw milk as a catalyst is known as:
- a. Lactoferrin
  - b. Lactoperoxidase
  - c. Lasozyme
  - d. Lactose

36. The form of energy stored in meat is known as:
- Glycogen
  - Lactogen
  - Mellagen
  - Glutagen
37. Example of myofibrillar protein in raw meat is:
- Myoglobin
  - Collagen
  - Elastin
  - Actin
38. The recommended stunning method for pigs is:
- Use of gas
  - Use of hammer
  - Electrical appliance
  - Use of captive bolt pistol
39. The lower meat pH post-slaughter is due to concentration of:
- Acetic acid
  - Lactic acid
  - Sulphuric acid
  - Hydrochloric acid
40. The live weight of a 6 month old Duroc pig is 75kg, weight of offal is 9kg, blood is 3 litres while carcass weight is 42kg. Dressing % will be:
- 55%
  - 56%
  - 57%
  - 58%

#### **A5 – PASTURE AND RANGE MANAGEMENT**

41. A grazing reserve is situated in \_\_\_\_\_.
- Sambisa
  - Kachia
  - Gembu
  - All of these
42. Which is not a grass?
- C. dactylon*
  - C. gayana*
  - C. ciliaris*
  - C. pubescens*
43. The trailing branch of a grass above the ground that is capable of becoming a separate pla

nt is a -----

- a. Sprig
- b. Stubble
- c. Rhizome
- d. Stolon

44. ----- and ----- are associated with natural pastures

- a. Low yield, high quality
- b. High yield, low quality
- c. Low yield, low quality
- d. High yield, high quality

45. Which of these is a browse plant?

- a. *Stylosanthes hamata*
- b. *Sporobolus pyramidalis*
- c. *Brachiaria decumbens*
- d. *Moringa oleifera*

46. 100 kg /ha of Urea is equivalent to \_\_\_\_\_ g/plot of 30 m<sup>2</sup>

- a. 70
- b. 130
- c. 300
- d. 33.3

47. Pasture seeds can be processed through the following except

- a. Concentration
- b. Sedentary
- c. Scarification
- d. Inoculation

48. 10 mature bulls grazing on 100m by 100m land producing 1000kg dry matter forage per annum has the carrying capacity of

- a. 10kg/ha
- b. 1 ton/ha
- c. 10 head/100ha
- d. 100kg/acre

49. One of these is a measurable parameter in a forage legume seed plot.

- a. Biomass yield
- b. Number of tillers with inflorescence
- c. Time to 50% flowering
- d. Root noddle/plant

50. The seed rate of 3.0 tonnes of *A. gayanus* planted on 1,500 x 400m pasture is
- 3tons/ha
  - 60kg/ha
  - 50kg/ha
  - 100kg/ha

#### A6 – LIVESTOCK ECONOMICS AND EXTENSION

51. The demographic characteristics of a livestock farmer is best described by the understated variables

- Age
- Sex
- Marital status
- Standard of living

52. NAPRI introduced a new formula for compounding layers mash to 500 poultry producers in Malete. In the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year, the number of farmers that adopted the innovation were 12, 70, 175, 165 and 78 respectively. Express the adopters in the third year as a percentage of the poultry farmers' in the social system.

- 2.5%
- 16.5%
- 35%
- 13.5%

53. In the adoption of the above (52)livestock innovation, the 'innovators' constitutes \_\_\_\_\_ % of a typical social system

- 2.5%
- 16.5%
- 13.5%
- 34%

54. POSDCoRB is an internationally accepted acronym that summarized the functions of a livestock extension administrator and is credited to:

- Luther Gulick and Urwick (1937)
- E.M. Rogers (1945)
- Fredrick Taylor (1961)
- Paul Drucker (1981)

55. Profitability Index (PI) in livestock enterprise measures

- Net Farm Income (NFI) per unit of Gross Revenue (GR)
- Gross Revenue (GR) per unit of Net Farm Income (NFI)
- Total Revenue (TR) and Total Cost (TC)
- None of the above



56. Rate of Return on Investments (RRI) formula is

- a.  $RRI = NFI/TC \times 100$
- b.  $RRI = NFI/TR \times 100$
- c.  $RRI = NFI/TFC$
- d.  $RRI = NFI/(TFC+TVC) \times 100$

57. Total income from Mr. Silas Broiler's farm in 2014 was N350, 000. He spent N190, 000 on feed, N20,000 on drugs and vaccines and N72,000 on wages. Calculate his Gross Margin (GM)

- a. N150, 000
- b. N330, 000
- c. N280, 000
- d. N68, 000

### **B1 – BEEF AND DAIRY CATTLE**

58. One of these is not dairy cattle

- a. Frisian (Friesian)
- b. Bunaji
- c. N'dama
- d. Jersey

59. All these are associated with dairy cattle **EXCEPT**

- a. well develop udder
- b. well develop hip bone
- c. light pigmented skin
- d. heavy body size

60. The effective digestive organs in the calf is

- a. rumen
- b. abomasum
- c. oesophageal groove
- d. reticulum

61. Cattle crushes are:

- a. Handling yards
- b. Feedlots or all feeding yard
- c. Work yards with forcing pen
- d. Used to restrain animals

62. Merit of standardization of milk include:

- a. Milk of varying composition can be obtained
- b. Only cream can be obtained
- c. Only butter can be obtained
- d. Such milk is tolerable and digestible by many consumers

63. One of these cattle is not found in Nigeria

- a. Mbulu
- b. Keteku
- c. Wadara
- d. Bokoloji

64. One of these is a trypanotolerant cattle

- a. Bunaji
- b. N'dama
- c. Red bororo
- d. Kuri

65. One of these diseases does not affect cattle

- a. Brucellosis
- b. Gumboro
- c. Anthrax
- d. Rinderpest

66. The estrous in cow occurs in average

- a. 18 days
- b. 28 days
- c. 98 days
- d. 108 days

## **B2 – SHEEP AND GOAT**

67. The lambing rate of 20 ewes producing 80 lambs per annum of which 50% are twin is:

- a. 2
- b. 3

- c. 4
- d. 5

68. All these breeds of sheep are indigenous in Nigeria except

- a. Balami
- b. Yankasa
- c. Macina
- d. Uda

69. The fertility in ewe is affected by all these factors under tropical environment except

- a. Weather condition
- b. Nutrition
- c. Heredity
- d. Disease and parasite

70. Which of these statements is not true of Red Sokoto goats

- a. They are found in Sudan and Sahel Savanna
- b. They possess glossy red but smooth coat colour
- c. They have short leg
- d. They have short ear spread horizontally

71. The lamb's rumen and reticulum are usually functional by the time they are:

- a. 30-40 days old
- b. 40-50 days old
- c. 50-60 days old
- d. 60-70 days old

72. One of these factors has limited effect on kid's birth weight

- a. Parity
- b. Management system
- c. Sex
- d. Litter size

73. The factors that affect fecundity and proficiency in doe include all of these except:

- a. Breed
- b. Climate
- c. Management system
- d. Coat
- e. Coat colour

74. One of these statements is false

- a. Goat feeds selectively on forage
- b. Goat can feed on aromatic and bitter herbs
- c. Goat digests feeds better than sheep and cattle
- d. Goat has higher digestive efficiency for poor quality roughages

75. Which of the following diseases in sheep and goat production do you vaccinate against?
- Bloat
  - Mastitis
  - PPR
  - Foot Rot

### **B3 - PIGS**

76. A task to be done between batches in the farrowing house is to
- Top up the veterinary medicine store
  - Paint the outside of the house
  - Top up the feeders
  - Clean and disinfect
77. Two days before farrowing and until two days after, sows may be given
- Increased food
  - A laxative
  - A vaccine
  - Three feeds a day
78. When feeding adlib and using nipple drinker, the number of grower pigs per nipple should be
- 50
  - 10
  - 15
  - 20
79. These strategies are suitable for minimizing heat stress in swine population except
- Provision of wallowing trough
  - Selection for heat tolerance
  - Increasing the amino acid content of feed
  - Increasing the mineral content of the feed
80. Which of these factors is considered during selecting a pork type breed in swine production
- Back fat thickness
  - Weaning weight
  - Finishing weight
  - All of the above

81. A gilt has an average daily gain of 500g, if the daily feed intake is 5kg of 40% feed moisture. The feed conversion ratio is
- a. 4
  - b. 3
  - c. 5
  - d. 2

#### **B4 - POULTRY**

82. One of the reasons for egg turning in the incubator is to prevent:
- a. Early hatching
  - b. Hatching of female chicks
  - c. Hatching of male chicks
  - d. The egg content from sticking to the shell
83. The late embryonic mortality in broiler egg is called:
- a. Dead in germ
  - b. Dead in transit
  - c. Dead in shell
  - d. Dead in tray
84. Using saline test for quality assessment, fresh chicken egg will:
- a. Float
  - b. Somersault
  - c. Sink
  - d. Swell
85. The structure that suspends the yolk in avian egg is called:
- a. Blastoderm
  - b. Chalaza
  - c. Inner membrane
  - d. Outer membrane
86. The most likely response of a surviving laying chicken deprived of both feed and or water for duration of four days is
- a. Incubation
  - b. severe appetite/smaller and shell less egg
  - c. moulting
  - d. perching, restlessness and emaciation
87. One of these is not a poultry viral disease
- a. Fowl pox

- b. Marek's disease
- c. Fowl typhoid
- d. Infectious bursal disease

88. Calculate the number of finishing broilers raised on 220cm x 120cm cage if the floor space is 0.11m<sup>2</sup>
- a. 100
  - b. 250
  - c. 240
  - d. 200

## B5 – MICROLIVESTOCK PRODUCTION

89. A process whereby some bees in company of one or more queens leave the colony to start another colony is termed;
- a. Swimming
  - b. Swarming
  - c. Colony separation
  - d. Sworming
90. The honey bees build their combs in what direction?
- a. From top downwards
  - b. From down upwards
  - c. From side to side
  - d. In a zigzag manner
91. Snails are vegetarians by nature and would eat the following plants except;
- a. Tender leaves
  - b. Tender shoots
  - c. Rotting fruits
  - d. Hairy leaves
92. The life cycle of snails includes the following except;
- a. Egg
  - b. Larva
  - c. Hatchling
  - d. Juvenile
93. The following are breeds of rabbits except;
- a. New Zealand White
  - b. New Zealand Red
  - c. New Zealand Brown
  - d. California
94. One of these forages is not well accepted by rabbits;
- a. *Centrosema pubescens*

- b. *Panicum maximum*
  - c. *Calopogonium mucunoides*
  - d. *Arachis hypogea*
95. In feeding grasscutters, to prevent digestive problems, the following should be done;
- a. Serve the supplement before forages in the morning
  - b. Do not serve the supplement before forages in the morning
  - c. Serve both the supplement and forages in the morning
  - d. All of the above
96. Calculate the total quails hatched at the end of 140 days production cycle if the quail start laying at 35 days and lays 15eggs at 80% hatchability
- a. 12
  - b. 48
  - c. 60
  - d. 80

### SECTION C - GENERAL

97. When was the Act establishing Nigerian Institute of Animal Science
- a. 2005
  - b. 2007
  - c. 2003
  - d. 2009
98. Who is the current President of Animal Science Association of Nigeria
- a. Mrs. M.O. Omotoso
  - b. Dr. G.O. Oyediji
  - c. Mr. T.A. Adeoye
  - d. Mr. S.A. Taiwo
99. The current President of the Nigeria Institute of Animal Science
- a. Mr. S. A. Taiwo
  - b. Prof. I. F. Adu
  - c. Dr. G.O. Oyediji
  - d. Mr. T.A. Adeoye
100. The acronym NAPRI is one of the livestock research institutes in Nigeria and stands for:
- a. National Animal Production Research Institute
  - b. Nigerian Animal Husbandry and Production Research Agency
  - c. National Animal Production Research and Industries
  - d. Nigerian Agricultural Production Research Institute