

**Domain Knowledge Test for recruitment of Assistant Professor in DUVASU, Mathura**

**Subject: Animal Nutrition**

- Q. No.1** The species which cannot convert glucose to fat
- a Avian
  - b Caprine
  - c Swine
  - d Equine
- Q. No.2** Methane production in rumen from 100 gm digested carbohydrate is
- a 2.00 g
  - b 6.25 g
  - c 13.34 g
  - d 4.50 g
- Q. No.3** Although TVFA concentration in the rumen varies with feed and time of feeding, it is usually \_\_\_\_\_ concentration
- a 70-150 mmol/litre
  - b 15-180 mmol/litre
  - c 190-200 mmol/litre
  - d 220-230 mmol/litre
- Q. No.4** Feeding standard based on digestible nutrient content was given by
- a Grouven
  - b Wolff
  - c Kuhn
  - d Lehman
- Q. No.5** Metabolic faecal nitrogen excretion (gm per kg DM intake) in cattle
- a 0.5
  - b 1.0
  - c 2.5
  - d 5.0
- Q. No.6** The nutritive ratio is equal to
- a TDN-DCP
  - b  $(\text{TDN-DCP})/\text{DCP}$
  - c TDN-CP
  - d  $(\text{TDN-CP})/\text{CP}$
- Q. No.7** Metabolic water produced per gram of protein is
- a 0.4 g
  - b 0.6 g
  - c 0.8 g
  - d 1.0 g
- Q. No.8** The following one is not a feed additive
- a Oilcake
  - b Antibiotics
  - c Prebiotics
  - d Binders

- Q. No.9** An example of wet processing method of grain is
- a Popping
  - b Extruding
  - c Exploding
  - d Roasting
- Q. No.10** In ruminants, the ME is calculated from DE by multiplying
- a 0.65
  - b 0.75
  - c 0.82
  - d 0.99
- Q. No.11** Excess lipids/oils in the ration of ruminants affect the digestibility of
- a Crude Protein
  - b Crude Fibre
  - c NFE
  - d Trace minerals
- Q. No.12** Mixing time required mixing mash type of feeds in a horizontal mixer is
- a Less than 1 minute
  - b 3-5 minutes
  - c 10-15 minutes
  - d 20-30 minutes
- Q. No.13** Defaunation in ruminants is
- a Removal of bacteria
  - b Removal of protozoa
  - c Removal of fungi
  - d Removal of microbes
- Q. No.14** The inclusion level of fish meal in poultry ration is
- a 1-5%
  - b 5-10%
  - c 10-15%
  - d 15-20%
- Q. No.15** Flame photometry is used to estimate
- a Phenols
  - b Soluble sugars
  - c Minerals
  - d Green house gases
- Q. No.16** Allantoin is
- a Rumen metabolite
  - b Purine derivative
  - c Anti nutritional factor
  - d Synthetic amino acid

- Q. No.17** Lambert Beer law find its application in
- a Colorimetry
  - b Centrifugation
  - c In vitro gas production technique
  - d Electrophoresis
- Q. No.18** Pore size of nylon bag used for *in sacco* technique is
- a 1-2  $\mu\text{m}$
  - b 5-10  $\mu\text{m}$
  - c 40-60  $\mu\text{m}$
  - d 80-100  $\mu\text{m}$
- Q. No.19** Rumen protozoa was discovered by
- a R. E. Hungate
  - b C. G. Orpin
  - c Nehring
  - d Gruby and Delafond.
- Q. No.20** The major compounds that have been used as chemical preservatives of high-moisture grain
- a Organic acids
  - b Minerals
  - c Antibiotics
  - d Probiotics
- Q. No.21** Copper act as a antidote for treatment of
- a Zinc toxicity
  - b Linamarin toxicity
  - c Mercury toxicity
  - d Molybdenum toxicity
- Q. No.22** The isomer of the CLA present in the milk fat is
- a *Cis-9, Trans-11*
  - b *Cis- 11, Trans-13*
  - c *Cis-10, Trans-12*
  - d *Cis-12, Trans12*
- Q. No.23** Which of the following carries B<sub>12</sub> across the intestinal mucosa?
- a Intrinsic factor
  - b Extrinsic factor
  - c Antihaemophilic factor
  - d Animal protein factor
- Q. No.24** Brix a term commonly used to indicate the content of \_\_\_\_\_ in molasses
- a Fat
  - b Urea
  - c Sugar
  - d Protein

- Q. No.25** One calorie is equal to:
- a 0.293 joule
  - b 0.239 joule
  - c 4.184 joule
  - d 3.601 joule
- Q. No.26** *Streptococcus zymogen* is used mainly for the determination of available?
- a Arginine
  - b Threonine
  - c Methionine
  - d Tryptophan
- Q. No.27** Ruminant animals fed high levels of easily fermentable carbohydrates, without adaptation, are likely to suffer from:
- a Acidosis
  - b Alkalosis
  - c Hydronephrosis
  - d Ketosis
- Q. No.28** Methemoglobin is formed in blood of ruminants from toxicity of
- a Phytate
  - b Cyanogen
  - c Nitrate
  - d Oxalate
- Q. No.29** Which element from the following is required for the formation of mucopolysaccharide which forms the organic matrix of bone?
- a Calcium
  - b Manganese
  - c Copper
  - d Magnesium
- Q. No.30** DCP requirement(kg) for production of 1 kg milk with 4% fat is
- a 0.025
  - b 0.035
  - c 0.045
  - d 0.055
- Q. No.31** The amino acids which do not participate in transamination reaction
- a Lysine & methionine
  - b Lysine & histidine
  - c Lysine & tryptophane
  - d Lysine & threonine
- Q. No.32** In Van Soest method of analysis, we can determine the Hemicellulose as
- a NDF - ADF
  - b ADF - Lignin
  - c NDF-lignin
  - d ADF-cellulose

- Q. No.33** Laboratory animal which require dietary source of vitamin C
- a Rat
  - b Mice
  - c Hamster
  - d Guineapig
- Q. No.34** Rate limiting enzyme in cholesterol biosynthesis?
- a  $\alpha$  1-4 glucosidase
  - b HMG CoA reductase
  - c Squalene synthetase
  - d 7  $\alpha$  hydroxylase
- Q. No.35** For fatty acid synthesis, Acetyl CoA comes from mitochondria to cytoplasm as?
- a Carnitine
  - b Malate
  - c Citrate
  - d Oxaloacetate
- Q. No.36** Organochlorine pesticides have high affinity to accumulate in
- a Liver
  - b Kidney
  - c Heart
  - d Fat
- Q. No.37** Swollen hock syndrome and frizzled feather in poultry due to deficiency of
- a Selenium
  - b Zinc
  - c Copper
  - d Iodine
- Q. No.38** A number of disorders of cattle & sheep described as “pining”, “salt sick”, “bush sickness”, & “wasting disease” is associated with deficiency of
- a Cobalt
  - b Selenium
  - c Sodium
  - d Iron
- Q. No.39** Which among the following is most susceptible to aflatoxicosis
- a Ducks
  - b Pig
  - c Cattle
  - d Sheep
- Q. No.40** In cat, Taurine deficiency leads to
- a Ascitis
  - b Retinal degeneration
  - c Goitre
  - d Reproductive problem



- Q. No.41 Which of the following is an exopeptidase**
- a Trypsin
  - b Chymotrypsin
  - c Carboxy peptidase A
  - d Pepsin
- Q. No.42 Example of a basic amino acid with epsilon amino group**
- a Methionine
  - b Glycine
  - c Lysine
  - d Tryptophan
- Q. No.43 Bitot's spot is seen in deficiency of which vitamin**
- a Vitamin A
  - b Vitamin D
  - c Vitamin E
  - d Vitamin K
- Q. No.44 Maximum level of urea in the concentrate mixture of cattle is**
- a 1.0%
  - b 3.0%
  - c 5.0%
  - d 7.0%
- Q. No.45 Aminopterin is an anti vitamin of**
- a Thiamin
  - b Biotin
  - c Pantothenic acid
  - d Folic acid
- Q. No.46 Esters of fatty acids with higher molecular weight alcohols other than glycerol**
- a Waxes
  - b Lipids
  - c Lecithin
  - d Cephalin
- Q. No.47 In ruminants, methyl malonic aciduria is seen in the deficiency of**
- a Vitamin B<sub>1</sub>
  - b Vitamin B<sub>6</sub>
  - c Vitamin B<sub>12</sub>
  - d Folic acid
- Q. No.48 \_\_\_\_% NDF in total ration is critical for maintenance of normal milk fat**
- a 25.0-28.0%
  - b 40.0- 42.0 %
  - c 62.0 -66.0%
  - d 70.0- 73.0 %

- Q. No.49** Which one of the following is not a phenyl propane derivatives?
- a Isopropyl alcohol
  - b Sinapyl alcohol
  - c Coniferyl alcohol
  - d Coumaryl alcohol
- Q. No.50** The true ketogenic amino acid is
- a Phenyl alanine
  - b Leucine
  - c Arginine
  - d Serine
- Q. No.51** Which one of the following is a rumen protozoan:
- a *Dasytricha ruminantium*
  - b *Selenomonas ruminantium*
  - c *Magasphaera eldenii*
  - d *Methanobacterium ruminantium*
- Q. No.52** The vitamin which acts as a cofactor in transamination reaction
- a Thiamin
  - b Riboflavin
  - c Pyridoxine
  - d Biotin
- Q. No.53** One example of pentasaccharide is
- a Stachyose
  - b Raffinose
  - c Xylose
  - d Verbascose
- Q. No.54** Consumption of raw eggs may produce the deficiency of
- a Thiamin
  - b Biotin
  - c Menadione
  - d Folic acid
- Q. No.55** Rumen butyric acid conversion to ketone bodies takes place primarily in
- a Hepatic tissues
  - b Extra Hepatic tissues
  - c Ruminal wall
  - d Rumen fluid
- Q. No.56** Dry matter (%) of canned dog food is
- a 22-26
  - b 46-52
  - c 70-84
  - d 90-94

- Q. No.57** In poultry, nutritional roup is caused by the deficiency of
- a Vitamin A
  - b Vitamin D
  - c Vitamin E
  - d Vitamin K
- Q. No.58** Which of the following feed ingredient is used as energy source but not a protein source?
- a Linseed meal
  - b Salseed meal
  - c Mustard cake
  - d Sunflower cake
- Q. No.59** “Enzootic ataxia” in Australia & “Swayback” in U.K affecting young lambs results due to deficiency of the element
- a Sulpher
  - b Copper
  - c Manganese
  - d Iodine
- Q. No.60** Feed additive which get lodged in gizzard of poultry and helps in grinding
- a Limestone
  - b Grit
  - c Inulin
  - d Gizzarosine
- Q. No.61** Mannan oligosaccharide is used in poultry feed as
- a Probiotic
  - b Prebiotic
  - c Antibiotic
  - d Acidifier
- Q. No.62** Death in HCN poisoning is due to
- a Depression of respiratory centre in the brain
  - b Low oxygen tension in the lungs
  - c Inability of the tissues of exchange oxygen
  - d Clotting of blood
- Q. No.63** Fat is absorbed from intestinal lumen as
- a Chylomicron
  - b Very low density lipoprotein
  - c Micelle
  - d High density lipoprotein
- Q. No.64** Recommended protein level (%) for adult maintenance cat diet is
- a 10
  - b 15
  - c 20
  - d 25



- Q. No.65** 1 kg of urea with 46% nitrogen equivalent to protein is
- a 1.87 Kg
  - b 2.87 Kg
  - c 3.87 Kg
  - d 4.87 Kg
- Q. No.66** The oil has lowest iodine value is
- a Coconut oil
  - b Castor seed oil
  - c Cotton seed oil
  - d Soybean oil
- Q. No.67** The normal temperature of rumen liquor is
- a 30-34°C
  - b 44-48°C
  - c 26-30°C
  - d 38-42°C
- Q. No.68** The concentration (%) of dispensable amino acid in tissue protein is
- a 20
  - b 30
  - c 40
  - d 50
- Q. No.69** Penguin like squat in hens is due to deficiency of
- a Vitamin B<sub>1</sub>
  - b Vitamin B<sub>2</sub>
  - c Vitamin B<sub>6</sub>
  - d Vitamin D<sub>3</sub>
- Q. No.70** Which one of the following fatty acid may be termed as volatile fatty acid?
- a Stearic
  - b Palmitic
  - c Myristic
  - d Lauric
- Q. No.71** In very good silage pH ranges from
- a 3.5-4.2
  - b 4.2-4.8
  - c 4.8-5.2
  - d 5.2-5.8
- Q. No.72** The rate of absorption of sugars decreases in the following order
- a Glucose>galactose>fructose>pentose
  - b Galactose>glucose>fructose>pentose
  - c Fructose>glucose>galactose>pentose
  - d Pentose>glucose>galactose>fructose

- Q. No.73** Indian feeding standard is based on which of the following feeding standard
- a Haecker standard
  - b ARC
  - c NRC
  - d Morrison standard
- Q. No.74** The anti nutritional factor present in water hyacinth is
- a Phytic acid
  - b Oxalic acid
  - c Prussic acid
  - d Ricin
- Q. No.75** Trypsin inhibitor of soybean interferes with the utilization of
- a Methionine
  - b Lysine
  - c Arginine
  - d Tryptophan
- Q. No.76** Fatty liver kidney syndrome in young broiler is due to deficiency of
- a Vitamin A
  - b Riboflavin
  - c Biotin
  - d Manganese
- Q. No.77** Cerebrocortical necrosis in sheep is due to deficiency of
- a Thiamin
  - b Riboflavin
  - c Niacin
  - d Pantothenic acid
- Q. No.78** The protein requirement ( $\text{g/w}^{0.75}$ ) for calculating DCP requirement for maintenance of cattle is
- a 2.48
  - b 2.84
  - c 3.61
  - d 4.41
- Q. No.79** In which of the following techniques the analytical materials are separated by using a mobile phase
- a Colorimetry
  - b Chromatography
  - c Spectrophotometry
  - d Electrophoresis
- Q. No.80** In fattening when carbohydrate is converted to fat, RQ value will be
- a 0.7
  - b 0.8
  - c 1.0
  - d More than 1.0

- Q. No.81** Molybdenum is a constituent of which of the following enzyme
- a Carbonic anhydrase
  - b Glutathione peroxidase
  - c Xanthin oxidase
  - d Catalase
- Q. No.82** Thumps in pigs is associated with deficiency of
- a Copper
  - b Iron
  - c Zinc
  - d Selenium
- Q. No.83** Impact grinding is working principle of which of the following mills
- a Roller mill
  - b Percussion mill
  - c Jaw crusher
  - d Hammer mill
- Q. No.84** Element required for hydrogenation of fat is
- a Iron
  - b Copper
  - c Cobalt
  - d Nickel
- Q. No.85** Piglets reared in intensive concrete sty have specifically high requirement for
- a Iron
  - b Folic acid
  - c Calcium
  - d Vitamin D
- Q. No.86** A calf weighing 30 kg requires \_\_\_\_\_ kg of colostrum per day at first week of age
- a 2.0
  - b 2.5
  - c 3.0
  - d 3.5
- Q. No.87** Which of the following mineral is required to prevent dental carries
- a Calcium
  - b Phosphorus
  - c Magnesium
  - d Fluorine
- Q. No.88** Hypomagnesaemic tetany can be aggravated by dressings of pasture with
- a Calcium
  - b Potassium
  - c Iron
  - d Zinc

- Q. No.89** The net gain of ATP(mole / per mole of propionic acid) by oxidation of propionic acid via glucose
- a 12
  - b 17
  - c 18
  - d 25
- Q. No.90** Feed ingredient contain highest level of calcium among the following is
- a Cotton seed hulls
  - b Soybean hulls
  - c Soybean seed
  - d Cotton seed
- Q. No.91** The insoluble oxalate present in the plant feedstuff is in the form of
- a Calcium oxalate
  - b Potassium oxalate
  - c Sodium oxalate
  - d Ammonium oxalate
- Q. No.92** Goose stepping in swine is due to deficiency of
- a Vitamin A
  - b Vitamin E
  - c Vitamin C
  - d Pantothenic acid
- Q. No.93** The minimum crude protein content in Compounded cattle feed (grade I) as per BIS
- a 22.0%
  - b 20.0%
  - c 18.0%
  - d 16.0%
- Q. No.94** Which of the following is an example of ionophoric antibiotic
- a Oxytetracycline
  - b Penicillin
  - c Bacitracin
  - d Monensin
- Q. No.95** If an animal consumes 5kg DM and excretes 6 kg faeces with 50% moisture, the digestibility co efficient of DM will be
- a 40.0%
  - b 50.0%
  - c 60.0%
  - d 70.0%
- Q. No.96** Which vitamin is dietary essential to maintain hoof quality in equine?
- a Thiamin
  - b Riboflavin
  - c Biotin
  - d Niacin

- Q. No.97** The ME (kcal/kg) content of layer ration as per BIS (2007) should be
- a 2500
  - b 2600
  - c 2800
  - d 3000
- Q. No.98** Pre ruminal calves require usual essential amino acid except
- a Lysine
  - b Arginine
  - c Histidine
  - d Threonine
- Q. No.99** Sulphur hexa fluoride (SF<sub>6</sub>) is used for estimation of
- a CO<sub>2</sub> production
  - b Methane production
  - c VFA production
  - d Lactic acid production
- Q. No.100** *In vitro* gas production technique for feed quality evaluation was given by
- a Menke and coworkers
  - b Henneberg&Stohmann
  - c Tilley and Terry
  - d Van Soest and Co workers
- Q. No.101** Salt feeding in dogs is contraindicated in
- a Ascitis
  - b Diabetes
  - c Liver diseases
  - d Myocarditis
- Q. No.102** Coenzyme A contains
- a Thiamin
  - b Riboflavin
  - c Pantothenic acid
  - d Biotin
- Q. No.103** Gross Energy value(kcal/g) of methane is
- a 3.76
  - b 5.86
  - c 9.21
  - d 13.25
- Q. No.104** *Leucaenaleucocephala* contains anti nutritional factors as
- a Oxalate
  - b Gossypol
  - c Glucosinolates
  - d Mimosine



- Q. No.105** Which vitamin is synthesized from glucose
- a Vitamin E
  - b Vitamin B<sub>1</sub>
  - c Vitamin B<sub>6</sub>
  - d Vitamin C
- Q. No.106** The following chemical may act as potential toxin for cat is
- a Benzoic acid
  - b Sorbic acid
  - c Propylene glycol
  - d Glycerol
- Q. No.107** Haylage has a moisture content of
- a 35-40%
  - b 40- 45%
  - c 55-60%
  - d 60-65%
- Q. No.108** The optimum crude fibre (%) content in dog diet on dry matter basis is
- a 1-3
  - b 3-5
  - c 5-8
  - d 8-11
- Q. No.109** Depigmentation of colored hair and black wool is a common finding in
- a Iron deficiency
  - b Copper deficiency
  - c Magnesium deficiency
  - d Calcium deficiency
- Q. No.110** Young male pigs undergo symptoms of feminization if feed contain
- a Zearalenone
  - b Aflatoxin
  - c Fumonisin
  - d Ochratoxin
- Q. No.111** The available phosphorus (% by mass, minimum) in pre-starter broiler chick feed as per BIS (2007) is
- a 0.35
  - b 0.45
  - c 0.55
  - d 0.60
- Q. No.112** In ruminants, for efficient utilization of NPN compounds the protein content of the basal concentrate mixture should be
- a Below 13.0%
  - b 14.0-18.0%
  - c 19.0-20.0%
  - d 20.0 – 22.0%

- Q. No.113** “Alkali disease” or “blind staggers” is caused by the toxicity of
- a Copper
  - b Molybdenum
  - c Selenium
  - d Magnesium
- Q. No.114** The CP (%) of good quality solvent extracted mustard seed cake is
- a 35
  - b 42
  - c 45
  - d 27
- Q. No.115** Yield of Microbial protein by digestion of one kilogram of organic matter in the rumen ranges
- a 20-250 g
  - b 90-230 g
  - c 150-400 g
  - d 200-450 g
- Q. No.116** Average daily feed intake of a laying hen
- a 60.0g
  - b 110.0 g
  - c 230.0 g
  - d 300.0 g
- Q. No.117** The deleterious factor present in spent tea leaves are
- a Ricin
  - b Mowrine
  - c Saponin
  - d Tannin
- Q. No.118** Which of the following is referred as Lipotropic factor
- a Choline
  - b Biotin
  - c Thiamin
  - d Niacin
- Q. No.119** Physiological fuel value (kcal/g)of protein is
- a 4.00
  - b 5.65
  - c 6.25
  - d 9.00
- Q. No.120** Which of the following vitamin is a structural component of body tissue
- a Vitamin B<sub>1</sub>
  - b Vitamin B<sub>2</sub>
  - c Choline
  - d Biotin

### Key: Animal Nutrition

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1.	b	41.	c	81.	c
2.	d	42.	c	82.	b
3.	a	43.	a	83.	d
4.	b	44.	b	84.	d
5.	d	45.	d	85.	a
6.	b	46.	a	86.	c
7.	a	47.	c	87.	d
8.	a	48.	a	88.	b
9.	c	49.	a	89.	b
10.	c	50.	b	90.	b
11.	b	51.	a	91.	a
12.	b	52.	c	92.	d
13.	b	53.	d	93.	a
14.	b	54.	b	94.	d
15.	c	55.	c	95.	a
16.	b	56.	a	96.	c
17.	a	57.	a	97.	b
18.	c	58.	b	98.	b
19.	d	59.	b	99.	b
20.	a	60.	b	100.	a
21.	d	61.	b	101.	a
22.	a	62.	a	102.	c
23.	a	63.	c	103.	d
24.	c	64.	c	104.	d
25.	c	65.	b	105.	d
26.	c	66.	a	106.	a
27.	a	67.	d	107.	b
28.	c	68.	c	108.	b
29.	b	69.	d	109.	b
30.	c	70.	d	110.	a
31.	d	71.	a	111.	b
32.	a	72.	b	112.	a
33.	d	73.	d	113.	c
34.	b	74.	b	114.	a
35.	c	75.	a	115.	b
36.	d	76.	c	116.	b
37.	b	77.	a	117.	d
38.	a	78.	b	118.	a
39.	a	79.	b	119.	a
40.	b	80.	d	120.	c