Physiology

1. Rumen gas largely consists of Carbon dioxide and methane in the proportion of .....

2. Urea is recycled in the rumen through .....and .....

3. If acetic : propionic ratio in the rumen goes down below ..... the fat content decreases in the cow milk

4. The pH of ileal fluid ranges from .....to .....

5. The rumen protozoa store carbohydrate in the form of .....

6. The testosterone released from tunica interna is converted to estradiol, a female sex hormone under the influence of .....

7. The estrogen produced by mammalian ovary or placenta normally are ....., ...and .....

8. In ruminants, the placenta is of ..... type

9. Grayish coloured corpus luteum present in ..... (species)

10. PRL (prolactin) promote the secretion of progesterone by the corpora lutea in .....and .....(species)

11. Bruce effect in mice involve blockage of .....secretion which is necessary for maintenance of CL

12. the blood supply to udder is maintained by .....artery

13. .....is the main source of energy in bull semen

14. Collapse of alveoli is known as .....

15. one gram of hemoglobin can bind with maximum of .....ml oxygen

16. Expiration if regulated by .....centre of the brain

17. Rate of diffusion of carbon dioxide through respiratory membrane is about .....times rapid than oxygen diffusion

18. The volume of air which remains in the lungs after forceful expiration is called .....

19. Threshold level for low oxygen in air for sheep, goat and cattle is about .....meters above sea level

20.The critical environmental temperature at which the increase in respiration rate become marked is 60^{o}F for HF,70^{o} F for Jersey and .....for Brahman cattle

21.The most potent compound which can stimulate the closure of esophageal/reticular groove in cattle even up to two years of age is.....

22.....is the usual order of concentration of individual acids present in the rumen

23.Enzymes responsible for metabolism are located in the .....(part) of spermatozoa

24.The estrous cycle of ewe is of .....days duration

25.The bull spermatozoa can travel .....cms per 30 minutes in the female genital tract

26.Sexual receptivity in case of ewe in heat requires the presence of.....(hormone)

27.....% of carbon dioxide transport occur in the form of Bicarbonate ion

28.Utiliozation coefficient for oxygen consumption is.....% for birds and .....%for mammals

29.The nerve network Meissners plexus controls secretions of epithelial cell where as Auerbachs plexus control .....

30.Coiled colon (Ansa Spiralis) present in .....and.....(species)

31.In GI system, contractile waves that travel short distance is termed as.....and that travel longer distance is.....

32.Daily production of saliva in cows comes around .....litres

33.The first hormone ever discovered was .....

34.Horse obtains around .....% of its energy requirements from large intestinal absorption of volatile fatty acids

35.Protozoan count of rumen is about .....ml of rumen content and it account for .....%of rumen metabolism

36. .....hormone induces gene expression in mammary tissue for casein synthesis

37. Herbivores donot have ..... phase of gastric stimulation

38. .....part of female reproductive tract is known as "neck of the womb"

39. Central frozen semen production and training institute is located at .....

40. Credit of first birth of a buffalo calf through AI in India goes to.....institute

41. Electro ejaculation was first adopted by .....

42. .....hormone is very important for the duct growth of mammary gland

43. The lactose content in milk is .....% and is the most consistent component of milk

44. It is estimated that about .....ml of blood must pass through udder for the production of one ml of milk

45. As per work physiology, contraction of .....(visceral organ) increase no of erythrocyte in the body.

46. Exercise result in increased cardiac output to meet the increased demand of working muscles for oxygen. The cardiac output =stroke volume X .....

47. During strenuous exercise, cardiac output increases upto .....fold in horse

48. Race horses are most susceptible to deficiency of .....(B vitamin)

49. Proteolytic bacteria represent about .....% (range) of the total ruminal bacteria

50. .....is a measurement of the distensibility of the lungs and thorax and is determined by measurement of the lung volume change for each unit of pressure change

Answers:

1. 65 : 35

2. saliva, diffusion across rumen wall

3. 3 : 1

4. 7-8

5. amylopectin

6. FSH

7. Estrone, estradiol and estriol

8. Epitheliochorial

9. Ewe

10. Rat and mice

11. Prolactin

12. Pudental

13. Fructose

14. Atelectasis

15. 1.34

16. Pneumotaxic

17. 20

18. residual volume

19. 2500 m

20. $80^{o}F$

21. NaCl

22. Acetic (C2) > Propionic (C3) > Iso & N-butyric (C4) > Iso & N-valeric (C5) > Methyl butyric acid (C5)

23. Mid piece

24. 17

25. 60

26. small amount of progesterone

27. 80

28. 50, 25

29. GI movements

30. Pig and ruminants

31. Segmentation, Peristalsis

32. 100-200

33. Secretin

34. 75

35. 10^{6}; 20

36. Prolactin

37. Cephalic

38. cervix

39. Hessarghata

40. Allahabad Agricultural Institute

41. Batteli

42. Estrogen

43. 4.6

44. 400-500

45. spleen

46. Heart rate

47. 8

48. Thiamine

49. 12-38

50. Pulmonary compliance

Animal Reproduction

1. Desirable concentration of actively motile spermatozoa per dose of frozen bull semen.
2. Commonly used model of AV for bulls.
3. Temperature time protocol needed for destroying spermicidal factor in milk.
4. Spermicidal factor present in fresh milk.
5. Volume of semen dependent upon the secretions from seminal vesicles.
6. -------present in goat seminal plasma causes coagulation when sodium citrate is added.
7. Freezing point depression of bull semen
8. Dose of penicillin G sodium per ml of extended semen.

9. Distance between grill and straw rack during semen freezing

10.Which is better ? rapid / slow freezing.

11. Dose of dihydrostreptomycin sulphate per ml in extended semen.

12. ----------ovary is physiologically more active.

13. Shape of non-pregnant uterus in mare

14. Urethral glands are found in ?

15. Fructose and citric acid are secreted from which accessory gland.

16. High content of ergothionine and inositol in vesicular glands is characteristics of which species .

17. Nerve supplying sensory fibres to vagina , vulva and clitoris.

18. Sex cords of female are called...

19. In females ----- ducts develop into gonadal system while in male---------ducts develop.

20. Vestibule arises from----------

21. The endocrine cells of ovary originate from----------

22. Oocytes surrounded by one layer of flattened cells ---------

23. Ovulation generally occurs in response to ----------

24. Follicular development is enhanced / suppressed in ovary containing corpus luteum ?

25. Second polar body is formed at the time of ----------

26. At ovulation ova of cattle, sheep and swine contain ---------- polar body.

27. At ovulation ova of horse, dog and fox are in ----------division.

28. At ovulation the oocyte liberated in cattle is ----------

29. At ovulation the oocyte liberated in equines is ----------

30. Primary spermatocyte gives rise to ---------- spermatozoa.

31. Primary oocyte fives rise to ---------- egg.

32. The regression of corpus lutea begins by day ---------- in cattle.

33. Mature corpus luteum is smaller than mature graffian follicle in the-.----------

34. Corpus luteum lysis is ---------- induced in cattle and sheep.

35. Intrauterine injection of ---------- blocks estrogen induced corpus luteum lysis in cattle

36. The functional segments of oviduct

37. PGE_3 has a ---------- effect on oviduct .

38. Uterus of cow, ewe and mare is ----------

39. Uterus of sow is----------

40. Oviduct is supplied blood by ----------

41. Blastokinin, a protein which influences blastocyst formation is secreted by uterus of----------

42. Fern pattern of cervical mucus is associated with high ---------- content.
43. pH of vaginal secretion is favourable / unfavourable to spermatozoa ?
44. Gartner's ducts are remnants of ----------
45. Depleted secretory cells of oviductal musculature
46. Cervix possesses / does not possess glands ?
47. FSH and LH are chemically ----------
48 ---------- causes crop milk production in pigeons.
49. The long half life of PMSG is due to ----------
50. PMSG is formed by endometrial cups which are of ---------- origin.

ANSWERS

1. 10-15 million
2. Danish
3. 92-95°C for 10-12 minutes
4. Lactanin
5. Seminal vesicles
6. Lyso lecithin
7. – 0.55°C
8. 500-1000 IU
9. 4 cm
10. Rapid
11. 500-1000µg
12. Right
13. Cruciform
14. Man
15. Seminal vesicles
16. Boar
17. Pudic
18. Medullary cords
19. Mullerian, Wolffian
20. Urogenital sinus
21. Ovarian medulla
22. Primordial cells

23. LH surge
24. Enhanced
25. Fertilization
26. One
27. First maturation
28. Secondary
29. Primary
30. Four
31. One
32. 15-16
33. Mare
34. Estrogen
35. Indomethacin
36. Fimbriae, Infundibulum, Ampulla, Isthmus
37. Relaxing
38. Bipartite
39. Bicornuate
40. Utero ovarian
41. Rabbits
42. Chloride
43. Unfavourable
44. Wolffian duct
45. Peg cells
46. Does not possess
47. Glycoproteins
48. Prolactin
49. Sialic acid
50. Foetal origin

1. Animal showing external evidence of pro-oestrus with vulval oedema, hyperemia & sanguinous vulval discharge is
   a) Cattle b) Bitch c) Doe d) Ewe and Mare

2. Mammary gland duct system growth is under the influence of
   a) Estrogen b) Progesterone c) Prolactin d) Prostaglandins

3. Mammary gland alveolar growth is under the influence of
   a) Estrogen b) Progesterone c) Prolactin d) Prostaglandins

4. Exogenous oxytocin has luteolytic action in ----------
   a) Bitch b) Cow & Ewe c) Cattle & Sow d) cow & Doe

5. Upto secondary spermatocyte stage---------- hormone acts, after which testosterone regulates spermatogenesis
   a) Growth hormone b) F.S.H c) I.C.S.H d) Insulin e) Androgens

6. In birds & reptiles, ---------- is important in contraction of shell glands & vagina to induce oviposition
   a) Oxytocin only b) F.S.H & L.H c) Prolactin & vasopressin d) vasotocin

7. Predominate Ig in follicular fluid is ---------
   a) Ig A b) Ig M c) Ig G d) Ig E

8. One primary spermatocyte produces ----------
   a) 4 Spermatids b) 64 Spermatids c) 1 Spermatid d) 16 Spermatids

9. One spermatogonia produces----------spermatids
   a) 4 b) 1 c) 64 d) 16

10. B-Spermatogonia is formed after ----------stage
    a) A 4 b) Intermediate spermatogonia c) Primary spermatocyte d) Secondary Spermatocyte

11. 4 - Cell stage embryo is transported from site of fertilization to uterus in
    a) Sow b) Mare c) Ewe d) Cattle

12. Transuterine migration of embryo is absent in -------
    a) Bitch b) Cattle c) Sow d) Both a and c

13. Maternal Recognition of Pregnancy (M.R.P) is responsible for
    a) Fetal growth b) Implantation c) Maternal circulation d) Fertilization e) Parturition

14. First maturation division / meiotic division is not completed at the time of ovulation in
    a) Sow b) Cattle & Buffalo c) Ewe & Doe d) Mare & Bitch

15. Hippomanes are usually found in ---------

a) Yolk sac b) Amniotic fluid c) Allantoic fluid d) All of these

16. Steroid hormones have receptors in ---------
a) Cytoplasm b) Nucleus c) Cell membrane d) Both a & c

17. An anabolic hormone --------
a) Insulin b) Estrogen c) Testosterone d) All of these

18. An animal in which pheromones are secreted in saliva foam
a) Boar b) Bull c) Stallion d) Ram

19. In the testes , testosterone secreting cells are ----------
a) Germinal epithelium b) Leydig cells c) Sertoli cells d) Blood testes barrier

20. First scientific research in A.I in domestic animals was conducted by Italian physiologist ---------- in 1780.
a) Leeuwenhoek b) G. Amantea c) L. Spallanzani d) Rapiquet

21. ---------- (1963) developed special cotton plug consisted of polyvinyl alcohol powder for sealing straws.
a) Sorenson b) Nishikawa c) Van Demark d) Cassou

ANSWERS:

1 b ; 2 a ; 3 b ; 4 d ; 5 b ; 6 d ; 7 c ; 8 a ; 9 c ; 10 b ; 11 a ; 12 b ; 13 b ; 14 d ; 15 c ; 16 a
17 d ; 18 a ; 19 b ; 20 c ; 21 d

B. FILL IN THE BLANKS

1) Acrosome reaction is an indicator of completed----------

2) Polyspermy is common in---------and----------

3) The C.L persists through out pregnancy in all farm animals except----------

4) Endometrial cups are a unique feature of ---------- placenta which secrete---------- hormone.

5) --------- is the major metabolic fuel for foetus

6) Although --------- comprise 70-80% of sugar in fetal ungulates (sheep, goat, cattle) and does not cross placental barrier.

7) Fetal cortisol act on placenta to induce ---------- enzyme which convert progesterone to estrogen to have role in parturition.

8) Lochia , the post partum uterine discharge is also known as -------- or ----------

9) Rate of ovulation is more in ---------- ovary of cattle but ---------- in mare

10) Glans penis is absent in ----------(species)

11) --------- twins are much more common than --------- twins

12) Doddlers are due to a pair of autosomal recessive genes causing ---------- or other----------

13) Congenital valvular defects are common in ----------(species)

14) Super fecundation is more common in ----------

15) Scrotum of domestic animals is located between a thigh except ---------- and------- in which scrotum is located caudal to thighs.

16) Boars masturbate by inserting their penis inside the preputial diverticulum & ejaculate , the condition is termed as ----------

17) Masturbation in animals is also termed as----------

18) Young boars in artificial insemination studs are separated to prevent ----------

19) Paralysis and paraphimosis of penis is seen bulls diseased with--------- & in horses in late stage of ---------- (Disease)

20) Inguinal hernia is considered a common breeding defect in ------ & ----- (Species)

21) The hormone produced by Sertoli cells in male & granulosa cells in female is----

22) The enzyme involved in melatonin synthesis & found only in Pineal gland is ----------

23) ---------- (1951) reported the birth of first calf from insemination with frozen semen in cooperation with Polge & Smith.

24) ---------- (1955), first time used pellets as packaging material.

25) Macpherson , Van Demark & Kinnoy (1954) developed freezing of semen in --------(Packaging material)

26) Egg yolk coagulating enzyme (EYCE) / Coagulase / phospholipase /Tricyl glycerol lipase is found in bulbourethral secretion of ---------- semen, which interacts with milk constituents in milk diluents & inhibit motility of spermatozoa.

27) ---------- is the most commonly used cryoprotectant for freezing of semen.

28) ---------- (1948) in Denmark for the first time used large sized straws made of polyvinyl chloride.

ANSWERS:

1) Capacitation
2) Birds & Reptiles
3) Mare
4) Equine , PMSG / eCG
5) Glucose
6) Fructose
7) 17-α- hydroxylase
8) Secundus , Second cleansing
9) Right , opposite
10) Tom (Male Cat)
11) Dizygotic , monozygotic
12) Cerebellar , brain stem lesions
13) Horses
14) Multipara (Dog & Cat)
15) Boar , Tom (Male Cat)
16) "Balling Up"
17) Onanism
18) Pedarasty (Rectal Copulation)
19) Rabies , Dourine
20) Horse , Pig
21) Inhibin
22) HIOMT(Hydroxy Indole –O- Methyl Transferase)
23) Stewart

A. MULTIPLE CHOICE QUESTIONS

1. Unfertilized ovum remains for months in the oviduct of -------species

a) sow b) mare c) ewe and doe d) bitch

2. In sows, maternal recognition of pregnancy is mainly due to the action of

a) Interferon tau b) Oxytocin c) Estrogen d) Prostaglandins

3. * Ovulation of "primary oocyte" occurs in

a) mare and bitch b) sow c) cow and doe d) all of the above

4. Centric type of nidation or implantation occurs in

a) rodents b) primates c) ruminants d) none of the above

5. Chemical structure of GnRH, a decapeptide, was determined by

a) Green and Harris b) Cole and Hart c) Gorski d) Shalley and Guellemin

6. Endometrial cups are formed from

a) chorionic girdle (fetal origin) b) maternal caruncles c) endometrium (maternal origin) d) none of the above

7. In sow, the villi near the endometrial glands are enlarged and specialized to form structures called

a) Hippomanes b) amniotic plaques c) areolae d) placentomes

8. Most of the developmental anomalies occur during

a) period of embryo b) period of ovum c) period of fetus d) during birth

9. Low land abortion or Marsh land abortion is due to

a) Fescue poisoning b) Leptospirosis c) nitrate poisoning d)None of the above

10. Transformation of secondary spermatocytes to spermatids

a) spermatocytegenesis b) spermateliosis c) spermiogenesis d) spermiation

11. Attachment of sperm to the ovum occurs initially at -------segment of sperm head

a) apical b) post-acrosomal c) principal d) equitorial

12. Diffuse arm like structure of microtubules in the sperm tail are made of proteins

a) flactin b) tubulin c) spermosin d) dynein

13. In boars, seminal vesicles produces ----------which acts as chief osmotic pressure regulator in the semen

a) ergothionine b) citrate c) inocitol d) fructose

14. **pH of TRIS extender is

a) slightly acidic b) slightly alkaline c) neutral d) alkaline

ANSWERS:

1 b ; 2 c ; 3 a ; 4 c ; 5 d ; 6 a ; 7 c ; 8 a ; 9 c ; 10 b ;

11 d ; 12 d ; 13 c ; 14 a

- * ovulation of secondary oocyte in other species
- ** pH 6.8

B. FILL IN THE BLANKS

1) Ovary of mare is ----------shaped

2) Cervix is poorly defined in ----------species

3) Progesterone concentration at oestrus fluctuates below---------ng/ml

4) Irregular long oestrous cycles are mainly due to ----------

5) In----------species, ovulation occurs in metoestrus

6) *PgF2α has local effect on ovary in all species except----------

7) Fertile life span of stallion spermatozoa----------

8) Abnormal fertilization in which only male pronucleus develops------

9) In rabbits, -------substance plays role in embryonic nutrition

10) ----------is a polypeptide hormone produced by ovary

11) hCG is produced by ----------cells of the placenta

12) **Number of carbon atoms in estrogen----------

13) ---------- is a unique species in which epididymis can produce testosterone

14) Ultrasonography for pregnancy diagnosis is based on ----phenomenon

15) Maintenance of CL and Progesterone from CL are necessary throughout the gestation in ---------

16) In cows, metoestral bleeding is associated with withdrawal of -------- hormone

17) Fertile life of ova in bitch ----------

18) Shape of CL in mare----------

19) Cystic follicles are common in---------

20) Potato soup pyometra or post service pyometra is characteristic of ----------infection

21) Failure to expel the second polar body resulting in triploid zygote ---------

22) ***In cow, mare and ewe, new CL is refractory for -----days of ovulation

23) Antimicrobial constituent of semen

24) Sigmoid flexure is pre-scrotal in ---------sp.

25) In Yolkmedia for buck semen, seminal plasma must be removed to prevent yolk coagulation due to the action of ------

26) Generally semen of ------sp. doesn't respond to freezing

27) From oogenesis onwards diplotene nucleus of oocyte remains in resting stage called----

28) Growth of follicle upto the stage of antrum is ----------

29) The cell layer of trophoectoderm covering the inner cellmass--------

30) Split oestrus is common in ----------

31) Percentage of spermatozoa in semen ----------

32) ---------- is the most important maternal cause of dystocia in ewe

33) ---------- is the most important maternal cause of dystocia in sow

34) First successful embryo transfer in cow was done by…….

35) --------ions are necessary for optimum sperm motility

36) Most important spermicidal heavy metals……..

37) Normal fructolysis index of semen ranges from----------

38) ------cells in are more common in severe testicular hypoplasia

39) Sperm specific LDH localized in midpiece

40) Glyceryl phosphoryl choline, carnitine and sialic acid in semen are secreted from------

41) Dag defect is more common in -----sp. and is associated with high level of---------metal

42) Optimum temperature for preservation of boar semen is----------

43) -----percentage of sodium citrate dehydrate is isotonic to semen

44) First A.I was done by --------- in beagle bitch

45) First A.I in India was done by--------in Mysore Palace Dairy farm

46) Osmotic pressure of semen ranges from----------

47) Examples for penetrating or intracellular cryoprotectants are---------

48) Examples for non-penetrating or extracellular cryoprotectants are---------

49) ---------gland is the source of antiagglutinin in sperm

50) Semen freezes at -------temperature

51) Level of ascorbic acid in semen----------

52) Trichomonas abortion is more common in -----trimester of pregnancy

53) -------is the most widely used extender for frozen semen

54) High catalase activity, reduced fructose and high pH in semen are indicative of --------

55) ----------is a β-blocking agent used to shorten parturition

56) ---------is a β-adrenergic agent used to delay parturition

ANSWERS:

1) Kidney shaped

2) bitch

3) 1 ng/ml

4) early embryonic mortality

5) cattle and buffaloes

6) Mare (*In mare, PgF2α has systemic action)

7) 70 to 120 hours

8) androgenesis

9) Blastokinin or uteroglobulin

10) relaxin

11) syncytiotrophoblastic cells

12) 18 carbon atoms (**Testosterone-19C steroid and progesterone-21C steroid)

13) stallion

14) Doppler phenomenon

15) swine

16) estrogen

17) 4 to 8 days

18) cauliflower shaped

19) sow

20) Trichomonas infection

21) polygyny

22) 3 to 5 days (*** 11 to 12 days in sow)

23) seminal plasmin

24) boar

25) phospholipase or triacyl glycerol lipase

26) Boar semen

27) Dictyate stage

28) Gonadotropin independent

29) Rauber cells

30) Mare

31) 10%

32) ring womb

33) uterine inertia

34) Willet in 1951

35) Potassium

36) Cu and Fe

37) 1.4 to 2 mg/hr

38) medussa cells and giant cells

39) LDH-X

40) Epididymis

41) Danish Jersey, Zn

42) 15 to 18°C

43) 2.94%

44) Lazzaro Spallanzani

45) Dr.Sampathkumaran

46) 280 to 300 milliOsmol

47) Glyserol, DMSO and Ethylene glycol

48) Raffinose, sucrose, PVP and glycine

49) Prostate

50) -0.53°C

51) 3 to 8 mg/ 100ml

52) first trimester

53) Yolk citrate

54) Seminal vesiculitis

55) Carazolol

56) clenbuterol

BCTEROLOGY MYCOLOGY

- The most commonly used endospore stain- Schaeffer-Fulton stain
- Capsule of B. anthracis is made of – D-glutamic acid
- Teichoic acid in Gram-positive bacterial cell wall has- Glycerol/ribitol
- Archaebacterial cell walls usually consists of – Proteins and polysaccharides
- Metachromatin granules serves as a reserve of – Inorganic phosphate
- The chemi-osmotic mechanism of ATP synthesis proposed by- Peter Mitchell
- Reducing media for anaerobic bacteria contains- Na-Thioglycolate
- *Mycobacterium leprae* is usually isolated in- Armadillos
- Selective media for S.typhi is – Bismuth sulphite agar
- Selective media for Staphylococcus aureus is- Mannitol Salt Agar
- Paraffin and mineral oils are often sterilized by- Hot air oven
- Sterilizing agent used in space crafts is- Ethylene oxide
- Test used to find the carcinogenicity of mutagens is- Ames test
- Three kingdom classification of bacteria proposed by- Carl Woere
- Pyrogen induced by endotoxins is – IL-1
- Lab test to detect the presence of endotoxins in preparations- Limulus assay
- Resoloving power of a compound microscope is – 0.2i m
- Heat resistance of spores is due to presence of – Dipicolinic acid
- Target site of polymyxin is- Bacterial cell membrane
- Thickness of Gram+ve and Gram-ve cell walls are- 20-80nm and 2-7nm respectively
- Most abundant membrane protein of Gram-ve bacterial outer membrane- Braun's lipoprotein
- Non-motile asexual sporangiospores of phycomycetes is – Aplanospores
- Exogenously borne sexual spores are known as – Basidiospores
- 'Psuedohyphae is characteristic of – *Candida albicans*
- 'North American blastomycosis' is caused by- *Blastomyces dermatitidis*
- 'European blastomycosis' is caused by- *Cryptococcus neoformans*
- Asexual spores produced by fragmentation of hyphae is – Arthrospore
- Staining used for detection of fungi in pathological specimens- Periodic acid Schiff stain
- Media used for stimulating production of chlamydospores of C. albicans- Corn meal agar.
- Method used for observing the development of spores and hyphae of fungus is called- Block-slide culture technique.
- Mucor is distinguished from other members of Phycomycetes by- Absence of rhizoids
- Asexual spores of Ascomycetes are known as- Conidiospores
- 'Bottle bacillus' is the synonym for- *Pityrosporum ovale*
- 'Pseudoglanders' or 'Japanese Farcy' caused by *Histoplasma capsulatum*
- 'Fluffy colonies' , 'Powdery colonies' and 'Lemon yellow colonies' are produced by- *Microsporum distortum* , *M. gypseum* and *M. canis* respectively.

- Most potent toxin producing aflatoxicosis is – B1
- 'Facial eczema' in cattle is caused by - *Pithomyces chartarum*
- "Farmer's Lung" is caused by *Micropolyspora faeni*
- % of Agar used for the preparation of solid media is- 1.5%
- Microbial population can be maintained in the exponential growth and at constant biomass for extended periods by using- Chemostat/Turbidostat
- The phenomenon by which bacteria monitor their own population density through sensing the level of signal molecules- Quorum assay
- Indicator bacterium used in autoclaving is- *Bacillus stearothermophilus* (spores)
- The commonly used agent for 'cold sterilization is - Gamma radiation
- The disinfectant action of chlorine is due to the formation of- Hypochlorous acid
- Linear chromosomal DNA is found in- *Borrelia burgdoferi*
- The topoisomerase that removes the supercoiling during replication- DNA gyrase.
- The negative stain used in electron microscopy is – Phosphotungstic acid
- Bacterium that exhibits directed swimming in response to Earth's magnetic field or to local magnetic fields- *Aquaspirillum*
- The structure that remain after the treatment of a gram –ve bacteria with lysozyme/penicillin is – Spheroplast
- An inorganic solidifying agent used for autotrophic bacteria- Silica gel
- The procedure for staining the capsular material of *B. anthracis* is- MacFadyean reaction.
- Botulism due to which type of toxin occurs in relation with phosphorous deficiency- Type D
- Vole's Bacillus is the synonym for - *Mycobacterium murinum*
- Specific media used for isolation of M. bovis is Stonebrink's medium containing Sodium pyruvate
- 'Stormy clot' reaction is characteristic of - *Clostridium welchi*
- The characteristic 'earthy odour' of the cultures is a feature of- *Psuedomonas psuedomallei*
- 'Flying sea gull' appearance is characteristic of- *Campylobacter*
- Vaginal mucus agglutination test in cattle is employed for the diagnosis of- *Campylobacter* infection.
- Rolling disease in mice is caused by- *Mycoplasma neurolyticum.*
- Eaton's agent is the synonym of - *Mycoplasma pneumoniae*
- Dick's test is used for the id entification of- *Streptococcus pyogens*
- Chinese letter arrangement is seen for- *Corynebacterium*
- Fried lander's bacillus is the synonym for *Klebsiella pneumoniae*
- Weil-Felix reaction is used for diagnosis of Rickettsial infections using *Proteus vulgaris* X strain
- Swarming growth and fishy odour of colonies is characteristic of- *Proteus vulgaris*
- Kauffman-White scheme is used for serotypic differentiation of Salmonella
- VR (Venkatraman-Ramakrishnan) medium is used as a transport media for- *Vibrio cholerae*

- ‘Epidemic typhus’ (Brill-Zinsser disease) is caused by *Rickettsia prowazaki*
- ‘Scrub typhus’ is caused by *Rickettsia tsutsugamushi*
- Rickettsial disease that are not arthropod borne are Q-fever and Trench fever

Biochemistry

1. The network of interrelated catabolic and anabolic pathways in cells is referred to as _____

2. A system that exchanges both energy and material with its surrounding is said to be _____

3. _____ is a type of weak interaction that stabilizes the native conformation of a biomolecule or supramolecular complex.

4. The monomeric subunits of _____ are ribonucleotides.

5. The stretching and breaking of bonds that occurs during the conversion of a reactant to a product creates a _____ state.

6. _____ is a measure of randomness.

7. Enzymes enhance the rate of chemical reactions by lowering the _____ energy that constitutes an energy barrier between reactants and products.

8. mRNA molecules with two or more attached ribosomes are called _____

9. _____ is a component of eukaryotic cells consisting of microtubules, actin filaments, and intermediate filaments.

10. _____ and _____ are the two groups of extant prokaryotes.

11. The role of _____ is to produce large number of ribosomes needed by the cell and have DNA that contain many copies of ribosomal RNA coding genes.

12. _____ helps in the condensation of DNA molecule.

13. _____, _____ and _____ are three classes of cytoskeletal proteins.

14. _____ is a complex of RNA and protein.

15. _____ are molecular complexes of DNA plus associated histone and nonhistone proteins.

16. _____ are compounds having electron-deficient functional groups; they tend to bond to electron-rich sites.

17. _____ are steroisomers that cannot be superimposed.

18. _____ are a pair of stereoisomers that are not mirror images of each other.

19. _____ is the energy or heat content of a system.

20. Henderson-Hasselbalch equation = _____.

21. The glycan portion of glycoprotein is known as a _____ group.

22. A covalent bond between two adjacent cysteines in a polypeptide chain is a _____ bond.

23. All stereoisomers must have at least one _____ centre.

24. _____ procedure provides information about a protein's primary structure.

25. The whole assortment of proteins in an organism.

26. _____ are cellular agents that assist in protein folding at elevated temperatures.

27. _____ is stable arrangement of few secondary structures.

28. _____ is an amino acid which can either accept protons or donate them at a pH that is close to physiological pH values.

29. _____ interactions are thought to be the driving force behind the formation of "molten globule" during protein folding.

30. Individual amino acids in a protein is called a _____.

31. _____ refers to the portion of a protein that is often composed of noncontiguous amino acid sequences and is usually defined on the basis of its contribution to protein function.

32. _____ is a type of secondary protein structure that extends 0.15 nm per amino acid residue.

33. _____ is a type of secondary protein structure that extends 0.35nm per amino acid residue.

34. Disrupting the hydrophobic interactions of a single subunit protein would have the greatest effect on the _____ structure of that protein.

35. Proteins that belong to a _____ have related structural features though they are unrelated based on their amino acid sequences.

36. The alpha-beta subunits in hemoglobin comprise a single_____; the intact haemoglobin tetramer contains two of these.

37. The saddle conformation is a _____ structure.

38. alpha-Keratin is referred to as a _____ _____ of protein subunits; haemoglobin with only four subunits is referred to as a(n) _____

39. Beta turn is an example of _____ structure.

40. _____ occurs when the binding of one ligand increases or decreases the binding of additional ligands.

41. The _____ immune system protects against bacterial infections.

42. _____ has a hyperbolic oxygen binding curve, no quarternary structure and serves as an oxygen "reservoir" in muscle cells.

43. _____ has a sigmoid oxygen binding curve and has a quaternary structure.

44. _____ is also called programmed cell death.

45. The metabolic intermediate _____ binds to haemoglobin with a stoichiometry of 1:1 and promotes the release of oxygen.

46. A helper T cell can signal nearby lymphocytes by secretion of a signal protein called _____

47. The contribution of lactic acid in muscle tissue contributes to the _____ effect, which explains the link between lactate production and an increased release of oxygen from haemoglobin.

48. RBCs transport carbon dioxide produced by respiring tissues in two forms: as bicarbonate ions and as _____

49. _____ are small molecules covalently attached to large proteins in the laboratory in order to elicit an immune response.

50. _____ is a particular molecular structure within antigen that binds an individual antibody.

51. Michaelis-Menten equation = _____

52. kcat is known as the _____ number. At saturating substrate concentrations kcat=Vmax/Et.

53. _____ inhibitor alters the Km of an enzyme without altering Vmax.

54. An enzyme without a prosthetic group is called _____.

55. The common structural motifs recognized by specific protein kinases are known as _____ sequences.

56. _____ is the enzyme that contains Ni2+ as a cofactor and was the first enzyme crystallized by Sumner. It enhances the rate of the reaction by _____.

57. A molecule essential to the functioning of an enzyme, but not part of the enzyme protein itself is called _____

58. _____ inhibitor binds only to the ES complex and does not bind to the substrate-binding site.

59. A specific, rare type of mixed inhibitor that alters Vmax without affecting Km is _____ inhibitor.

60. _____ of a substrate occurs when hydrogen bonds between a substrate molecule and water are replaced by noncovalent interactions between the substrate molecule and an enzyme.

61. _____ is an allosteric enzyme whose activity is regulated by a modulator other than its substrate whereas _____ is an allosteric enzyme whose substrate is also a modulator of activity.

62. When the K'eq=one, $\Delta G'^{\circ}$=_____

63. Inhibitors that rreversibly bind to an enzyme are known as _____ inactivators.

64. The regulation of enzyme activity by the reversible binding of a phosphoryl group is an example of regulation by_____ modification.

65. Allosteric enzymes_____(do/do not) follow Michaelis-Menten kinetics and some show _____ kinetic behaviour in the velocity versus substrate concentration plot which reflects cooperativity.

66. The plot of an enzyme kinetic reaction eventually plateaus as the active site is saturated with substrate. [T or F]

67. Six membered ring form of sugars are called _____ and five-membered ring form of sugars are called _____

68. Lectins are proteins that bind to specific _____

69. An isomer that differs at only one of two or more chiral centres are called _____

70. The process that interconverts isomers of pyranoses

71. _____ DNA is the dehydrated compact form of DNA.

72. _____ DNA is a structure containing polypurine tracts and mirror repeats and forms a triple helix.

73. _____ pairing or Non-Watson-Crick pairing allows the formation of triplex DNAs.

74. _____ of purine and _____ of pyrimidines is linked to C1 of ribose.

75. The increase in UV light absorption when double-stranded DNA is denatured is referred to as the _____ effect.

76. Purine or pyrimidine base covalently bound to furanose through and _____

77. _____ bonds are covalent bonds tht link the individual nucleotide residues in DNA and RNA.

78. The deamination product of :

a) Cytosine = _____

b) Guanine = _____

c) 5-methyl cytosine =_____

d) Adenine = _____

79. _____ is an extremely hydrophobic isoprenoid compound that anchors sugars to cell membranes.

80. The polar head group of cholesterol is _____ group.

81. _____ is a lipid seen in beeswax.

82. Lignoceric acid is a/an _____ free fatty acid with _____ carbon atoms.

83. The fatty acid 20:4(Δ5,8,11,14) is commonly called _____ which is a precursor of _____

85. _____ are lipids stored in adipocytes

KEY :

1) Metabolism
2) Open
3) non-covalent interaction
4) RNA
5) Transition
6) Entropy
7) Activation
8) Polysomes
9) Cytoskeleton
10) archaebacteria and eubacteria
11) nucleolus
12) nucleosome
13) actin/microfilament; microtubules; intermediate filaments
14) ribosome
15) chromatin
16) electrophiles
17) enantiomers
18) diasteromers

19) enthalpy

20) pH=pKa+log[proton acceptor]/[proton donor]

21) prosthetic

22) disulfide

23) chiral

24) Edman degradation

25) Proteome

26) Chaperones

27) Motif

28) Histidine

29) Hydrophobic

30) Residue

31) Domain

32) alpha helix

33) beta pleated sheet/beta conformation

34) tertiary

35) superfamily

36) protomer

37) supersecondary

38) supramolecular complex; oligomer

39) secondary

40) cooperativity

41) humoral

42) myoglobin

43) haemoglobin

44) apoptosis

45) 2,3-bisphosphoglycerate

46) Interleukin

47) Bohr

48) Carbaminohaemoglobin

49) Hapten

50) Epitope

51) Vo = Vmax + [S]/ Km + [S]

52) Turnover

53) Competitive

54) apoenzyme

55) Consensus

56) urease; 10^14

57) cofactor

58) uncompetitive

59) noncompetitive

60) desolvation

61) heterotropic/homotropic

62) zero

63) suicide

64) covalent

65) do not; sigmoid

66) T

67) pyranoses; furanoses

68) oligosaccharides

69) epimers

70) mutarotation

71) A-DNA

72) H-DNA

73) Hoogsteen

74) N9;N1

75) Hyperchromic

76) N-β-glycosidic bond

77) Phosphodiester

78) a. uracil; b. xanthine; c. thymine; d. Hypoxanthine

79) Dolichols

80) Hydroxyl

81) Triacontanylpalmitate

82) saturated/unsaturated; saturated;24

83) arachidonic acid; eicosanoids – an example: prostaglandins

85) Triacylglycerol

NOTE:84 IS NOT PRESENT.

BIOTECHNALOGY

· Chemical synthesis of DNA was devised by- H. G. Khorana

· Most commonly used type of restriction enzymes are of- Type II

· Major complement component present in serum is- C3

· PCR technique was developed by – Kary. B. Mullis

· Major DNA polymerase involved in replication in prokaryotes is- DNAP III

· Most abundant polysaccharide among living system- Cellulose

· Recombinant DNA technology developed by – Cohen and Boyer

· No: of assymetrical carbon atoms in Ribulose- 2

· Semi-conservative replication of DNA was proved by- Meselson and Stahl

· Protein part of an enzyme is termed as- Apoenzyme

· During replication, the enzyme that prevents torsion by breaking DNA strands- Topoisomerase.

· Eukaryotic DNAP for mitochondrial DNA replication is- DNAP-gamma.

· Monoclonal antibody technique developed by- Kohler and Milstein

· The most stable form of DNA and RNA seen under physiological condition is- B-DNA and A-RNA respectively

· Type II restriction enzymes were discovered by – Hamilton Smith (1970)

· In prokaryotes, the DNA polymerase having 5'-3' exonuclease activity- DNAP I.

· Concept of Transformation was proved by- Griffith

· During replication of DNA the separation of double strands is done by- Helicases.

· DNA replication takes place from 5'-3' direction.

· Cracking of genetic code was performed by- Nirenberg and Mathaei.

· Nucleotide sequence within a gene that is transcribed into RNA but excised before translation in called- Introns.

· Jumping genes or transposons were first reported by – Barbara McClintock.

· One gene-One Enzyme hypothesis was proposed by- Beadle and Tatum.

· Operon concept was proposed by- Jacob and Monod.

· The major form of super coiling found in chromatin is- Solenoidal.

· Phenomenon of Conjugation was put forth by- Lederberg and Tatum.

· Histones are rich in amino acids arginine and lysine.

· Wobble hypothesis was proposed by- Francis Crick

· Bacterial DNA is compacted in a structure called- Nucleoid.

· Transfer RNA is produced by - RNApolymerase III.

· Chemical method of DNA sequencing was developed by- Maxam and Gilbert.

· 'Molecular beacons' are probes used in detection system for - Real Time PCR.

· Reverse transcriptase was first discovered by- Temin and Baltimore.

· The enzyme employed for amplification of specific genes in PCR technique is- Taq DNA polymerase.

· In Agarose gel electrophoresis, the movement of proteins is based on- Charge:Mass ratio.

· Phenomenon of transduction was proposed by- Zinder and Lederberg.

· The medium used for selecting myeloma cells in hybridoma technology is- HAT medium.

· Amino acid that does not exhibit optical activity is- Glycine.

· In nucleotides, both types of pentoses are in beta-furanose form.

· In alkaline conditions, RNA is rapidly hydrolyzed due to the presence of 2' -OH group.

· Hinge region of IgG is rich in - Proline.

· Imidazole group is present in the amino acid- Histidine.

· In SDS-PAGE, the movement of proteins is based on- Mass.

· Separation of proteins in iso-electric focusing is based on- Isoelectric point of the particular protein.

· The reagent developed by Sanger to identify the amino terminal amino acid is- 1-fluoro-2,4- Dinitrobenzene.

· 'Beta turn' is a secondary structure of protein.

· The most abundant amino acid present in collagen is- Glycine.

· Hershey and Chase first reported that DNA is the genetic material.

· In reversible competitive inhibition of an enzymatic reaction, Vmax remains same but Km increases.

· Co-factor for Glutathione peroxidase is – Selenium.

· In Agarose gel electrophoresis the DNA is visualized using- Ethidium bromide.

· Megaloblastic anemia often occurs due to deficiency of -Folic acid.

· The prosthetic group present in amino transferases is- Pyridoxal phosphate.

· Reverse transcriptases are present in – Retroviruses and Hepadna viruses.

· A diploid cell line of human origin is- HeLa.

· Vero cell lines are obtained from -African green monkey.

· Cell lines are commonly preserved in- Liquid Nitrogen.

· Viruses commonly used for production of vector vaccines are- Fowl pox virus, Retrovirus and Herpesvirus.

· Size of a prokaryotic cell generally ranges from- 1-10 microns.

Veterinary Science Refresher

- Bacterial disease in which Pasteur's vaccine used- Anthrax
- 'Para anthrax' in pigs caused by- Cl. septicum
- Foot rot in sheep is caused by - Bacterioides nodosus
- Duck Plague is the synonym for –Duck Viral Enteritis
- The indistinct margins of a radiograph due to a large focal spot of X-ray beam - penumbra.
- The optimum temperature of developing and fixing solutions in radiography is - 68F
- Avian influenza virus has 8 gene segments
- M. leprae can be cultivated in vivo only in- Armadillo

- State of unresponsiveness towards an antigen is - Anergy
- The cholinergic drug that cannot be hydrolyzed by AchE is -carbachol
- The penetrating power of X-ray beam depends on - kvp
- Anaesthesia produced by combination of drugs is termed as-Balanced anaesthesia
- Antigen-Antibody complexes present in dentrites of Dentritic cells- Iccosomes
- BCG is an attenuated form of - Mycobacterium bovis
- Vitamin C is used as an antidote to ---Nitrate-----poisoning
- Oseltamivir is the drug of choice against- Bird flu in humans
- The species of animal in which Ivermectin crosses the BBB- Equines
- The only anaesthetic agent known to be carcinogenic- fluoroxene
- The drugs contraindicated in parakeets & cats respectively are- procaine & morphine
- The species most sensitive to the ill-effects of xylazine - cattle
- A pantropic virus that commonly affects Canines- Canine distemper virus
- Symplasma stage in submucosa is seen in- Johne's Disease
- Oestrogenic mycotoxin causing reproductive disorders in swine is- Zearalenone
- 'Blue eye' or Rubarth's Disease is the synonym for- Infectious Canine Hepatitis
- Which is the most potent opiate analgesic? carfentanil
- Name a benzodiazepine antagonist- flumazenil
- Ketamine is contraindicated in head injuries as it reduces -Intra cranial pressure
- The subtype of Avian flu virus causing human casualties around the world- H5N1
- Mad cow disease is caused by- Prions
- Cold enrichment procedure is done for the isolation of - Listeria
- 'J' chain is present in immunoglobulins- IgA and IgM
- In the body, Chloral hydrate is converted to - tricholoroethanol
- Name one anaesthetic agent which is steroid in nature- Althesin
- Dose of Anthrax vaccine- 1ml s/c
- Anaphylatoxins are- C3a and C5a
- The specific antidote of Morphine is- Nalorphine
- Dunkop (pulmonary) and Dikkop (cardiac) are two forms of - African Horse Sickness
- 'Wire loop' lesions in the glomerular basement membrane seen in- SLE
- The drug used to stabilize mast cells- Cromolyn sodium
- Hyaluronidase-- enzyme used with local anaesthetics to promote its diffusion and absorption
- Milbemycin oxime is obtained from-Streptomyces hygroscopicus
- Name a suture material that glows in darkness easy to handle in poor light-Flurofil
- Cardinal Signs of Inflammation was propounded by- Cornelius Celsus
- FMD virus multiplies in the ------Str.spinosum--------- layer of epidermis
- Father of Immunology is- Edward Jenner
- Lamsiekte in cattle and sheep is caused by - Cl.botulinum type D.
- Vaccine strain of B.anthracis is - Aviurlent and Non capsulated
- Monsell's suture technique is used in - Enteroanastomosis
- Ethylene oxide is a gaseous agent used for sterilization kills microorganisms by-alkylation..

- VitC is necessary for hydroxylation of proline & lysine in synthesis of -collagen
- 'Bomb burst' or 'Umbrella like' colonies are characteristic of - Listeria
- Influenza virus is typed based on Matrix and Nucleocapsid antigen
- The conversion of DHFA to THFA is blocked by- Trimethoprim
- Examples of pencillinase resistant pencillins- Methicillin and Cloxacillin
- First immunoglobulin to be synthesized in Neonates- IgM.
- 'Abortion storms' in sheep is caused by- Campylobacter foetus
- Vaccine strain used for prophylaxis of IBD infection-Georgia
- Which is the only benzimidazole drug that wont inhibit Fumarate reductase-mebendazole
- Name an anthelminthic which was previously used to treat human gout-piperazine
- The experimental animal used for FMD research is - Guinea pig
- The no: of Capsomers in Adenoviruses is- 252
- The source of Vero cell line is - African Green Monkey (Kidney)
- Heat resistant ability of sporulated bacterium is due to the compound-Ca dipicholinate
- The generation of monoclonal antibodies involves-Salvage pathway
- Antibiotic which can also function as an anthelminthic agent is- Hygromycin B
- Ivermectin toxicity can be reversed by using - Picrotoxin
- Cucurbitin, an active principle in Pumpkin seed is used for the treatment for-Cestodiasis
- Name a live vaccine previously used against rabies- Flury's LEP & HEP
- Periarticular lymphoid sheath (PALS) is populated by T lymphocytes are seen in-Spleen
- Habel's testing (mouse test) is done for the diagnostic assessment of- Rabies
- Most immunogenic viral polypeptide of FMD virus is - VP1
- Rabbits show genetic tolerance towards- Atropine
- The diuretic that cannot be given along with aminoglycoside antibiotics-Furosemide
- The antibiotic Gentamicin is obtained from- Micromonosporum purpureum
- Ochratoxin primarily causing renal impairment is produced by- Aspergillus ochraceus
- Name the smallest animal virus- Porcine circovirus (17-20nm)., FMDV is of 28-30nm size.
- Pyometra in bitches is caused by –E.coli
- Strawberry foot rot is caused by-Dermatophilus congolensis
- Drug of choice for mycoplasmosis- Tylosin
- 'Tennis racket' shaped spores are present in- Cl. chauvoei
- Psittacosis or Ornithosis in birds is caused by- Chlamydophila psittaci
- The proton pump inhibitor used to treat Zollinger-Ellison syndrome-Omeprazole
- Rabies virus (bullet shaped) belongs to the genus- Lyssa virus
- 'Bull Nose' in pigs is caused by- Fusobacterium necrophorus
- DNA virus that codes for reverse transcriptase enzyme- Hepadna virus
- Chronic Respiratory Disease in birds is caused by - Mycoplasma gallisepticum
- Immediate precursor of all sex steroids- Pregnenalone
- In avian tuberculosis the lesion are confined to - GI tract

- Name a commonly used AchE reactivator- Pralidoxime.
- Piperonyl butoxide is used as a synergist along with -Pyrethroids
- HVT is the vaccine strain used against- Marek's Disease
- In B.abortus, the ratio between LPS antigens A and M is - 20:1
- Kume and Page Scheme is used for the classification of- Haemophilus
- 'Reverse Genetics' is nowadays used for the production of vaccine strains of - Avian flu virus
- Drug of choice against Theileriosis is -Buparvaquone
- With H&E staining the calcified tissue appears -Blue
- The toxic level of Aflatoxin in ducklings is- 0.03ppm
- Summer Mastitis in cattle is caused by -C. pyogenes
- Heart Water disease is caused by- Cowdria ruminantium
- EMJH medium is commonly used for the cultivation of -Leptospira
- Hoti's test is used for detecting -Str. agalactiae mastitis
- Infectious Bulbar Paralysis is the synonym for- Psuedorabies
- Sulphonamides are metabolized by acetylation in ruminants and glucuronidation in canines.
- Scythe shaped spleen is seen in -Horses
- The most important symptom of anthrax in dogs is -Gastroenteritis.
- Braxy in sheep is caused by -Cl. septicum.
- The microbes that have the ability to survive pasteurization temp is -Listeria and Coxiella
- Techoic acid is present in the cell wall of - Gram + bacteria
- Route of inoculation in chicken embryos is intravenous for Blue tongue virus
- 'Darling disease' is caused by - Histoplasma
- New Jersey, Indiana and Trinidad are strains of - Vesicular stomatitis virus
- Diene staining is used for - Mycoplasma
- Aspergillus flavus in SDA produces-Yellowish green colonies
- Cork screw motility is shown by -Campylobacter
- Turkey coryza which is highly contagious is caused by - Bordetella avium
- Castanida and Machiavello staining are employed for detecting- Chlamydia
- The antibodies used against the Rh antigen to prevent Erythroblastosis foetalis- Rhogam
- The immunoglobulin known as 'Reagin'- IgE
- Macrophages present in Kidney are known as- Mesangial cells
- Interleukin that suppresses the immune response is - IL-10
- Etiological agent of silage disease is – Listeria.
- Smallest living organism of individual existence- Mycoplasma
- Bacillus anthracis have medusa head like colonies in -Nutrient agar
- Clostridium perfringens type A in animals causes- Gas gangrene
- The class of immunoglobulin that first appears in primary immune response- IgM
- Polypeptide chain called secretory component is present in- IgA
- Docking in dogs can predispose to a conditon called- Perineal Hernia
- Hoflund's syndrome is the synonym for- Vagal indigestion
- Vitamin K dependent clotting factors are- 2,7,9 and 10.
- Limber neck in poultry is caused by- Clostridium botulinum type C

- The amino acid tryptophan act as growth promoter for the microbe- Erysepelothrix
- The most potent Aflatoxin is- B1
- The cytolytic product of CTL cells that forms transmembrane pores in target cells- Perforins
- Autoimmune disease in which Ig's are formed against Ach receptors- Myasthenia gravis
- World's first veterinary school in - 1762, Lyons, Paris
- The dog breed that has genetic predisposition for skin tumor- Boxer
- Gavard's muscle is the synonym of -Int.obl. muscle layer of stomach.
- Ventral bending (concave) of the spinal column is called- Lordosis
- A and M antigens are absent in- B.canis & B.ovis
- Foothill abortion / BEA in cattle is caused by- Chlamydophila psittaci
- The antibacterial system naturally present in milk is- Lactoperoxidase system
- Marsupialization in bitches is done usually to treat- Pyometra
- Dose of Ivermectin is – 200 micrograms/Kg body weight
- The breed of cattle which has strong predisposition for Eye Cancer- Hereford
- Male dog urinates like bitch in - Cystitis
- Knott test is done to detect Dirofilariosis in dogs
- Half life of IgG is - 20-21 days
- Benign tumor of gingiva is called - Epulis
- The drug used to contract gall bladder (cholecystokinetic)- Ceruletide
- The type of paralysis produced by the drug piperazine on worms is – flaccid
- Cart wheel shape chromatin is seen – Plasma cells
- The most abundant buffer system in plasma- bicarbonate buffer
- The smallest animal cell has a diameter of – 2 microns
- The Fc fragment of Ig's can be recovered by digestion with the enzyme- Papain
- Most common respiratory pathogen in canines - Bordetella bronchiseptica (kennel cough)
- Rabbit ileal loop assay is commonly done for the detection of - ET E.coli
- Haemo-lymphnodes are commonly seen in - Ruminants
- Clonal selection theory of antibody production was proposed by- Burnet
- Biphasic fever in dogs is indicative of - Canine distemper
- Ramstedt's surgical procedure is performed to correct- Pyloric stenosis
- The immediate precursor of thrombocytes are- Megakaryocytes
- Rouleaux formation in blood smear is a common finding in – Felines
- Substance required for platelet aggregation is – Thromboxane
- The interleukin commonly referred as chemokine is - IL-8
- Rectal pinch test is done for the diagnosis of - Johne's disease
- Surgical cat gut is often sterilized by- Isopropyl alcohol or ethylene oxide
- Giant kidney worm of Dogs is - Dioctophyme renale
- The sedimentation coefficient of IgG is 7S and IgM is 19S
- Principal metabolic pathway in RBC is- Glycolysis
- Tyzzer's disease in foals and lab animals is caused by – Bacillus piliformis
- Avian spirochetosis is caused by – Borrelia anserina
- Colopexy is used to treat- Recurrent rectal prolapse
- Mouse ascites method is used to production of - Monoclonal antibodies

- The dog breed having genetic predisposition to cardiac hypertropy- Grey hound
- Suture technique used for uterine stump closure- Parker kerr method
- In humans MHC is referred to as HLA complex whereas in mice it is H-2 complex
- “Paple” shaped abdomen is diagnositic of – Vagus Indigestion
- Tenesmus followed by bloody dysentery in calves is characteristic of – Eimeria zuernii
- The coccidial organism commonly found in felines and canines – Isospora (Eimeria absent)
- “Slime balls” ie., cercarial aggregation seen in- Dicrocoelium infection.
- “Grunt” on applying pressure on xiphoid region in cattle is indicative of- TRP
- Salmon poisoning in dogs caused by -Neorickettsia helmintheca
- Antibody having least half life is - IgE
- Genetically mutant mice lacking NK cells is called- Biege (Athymic mice- 'Nude')
- Salivary cyst found in sublingual duct is- Ranula
- Membrane bound IgM is a - Monomer
- Class II MHC restricted cells are- T helper cells
- Lyme disease is caused by – Spirochete, Borrelia burgdoeferi, (IH- Ixodes)
- Antidote for warfarin toxicity is – Vitamin K
- The drug that intensifies the toxic effects of Warfarin is – Phenyl Butazone
- The amino acid which is deficient in cats is - Taurine
- Complement activation is predominantly mediated by - IgM
- The compound used as gastric sedative in dogs is - Chloretone
- The receptor for co-stimulating B7 molecules on APC is- CD28
- Enteroplication is the surgical technique to correct- Intussusception
- The antibody that can exist as monomer, dimer, trimer and tetramer- IgA.
- Insulin like growth factor –I is also called as – Somatomedins
- The diuretic with Aldosterone antagonistic action is – Spironolactone
- The drug used to experimentally induce diabetes in dogs- Alloxan
- Allopurinol is the drug of choice for the treatment of – Gout
- In passive HA, chemical used to coat antigens in RBC- Tannic acid or chromium chloride.
- Infectious RNA molecule of low molecular weight comes under the category- Viroids
- Pink eye is caused by Moraxella bovis and Summer pink eye is caused by IBR virus
- 'Dew drop' colonies and satellite phenomenon is exhibited by- Haemophilus
- 9R is the vaccine strain of - Salmonella Gallinarum
- Glaucoma, a condition of increased intra ocular pressure is treated using- Acetazolamide
- Canrenone is the metabolite of – Spironolactone
- Kanagawa reaction is shown by – Vibrio parahaemolyticum
- SMEDI in pigs is caused by – Parvo Virus
- “White Spotted” kidney is a sequelae to – Leptospirosis and E.coli infections
- Infarcts in kidney of Swine is characteristic of – Erysipelas
- In GI tract, the antigen transport is carried out by specialized cells called- 'M' cells
- Infectious protein particles causing 'Scrapie' in sheep are called- Prions

- The penicillin which is effective against pseudomonas infection- Carbenicillin
- Burton's line in gums is indicative of - Lead poisoning
- The drug that can replace Ivermectin in sensitive dogs- Milbemycin oxime
- Jaagsiekte " Driving Sickness" in sheeps is caused by Retro virus
- Jaagsiekte is Pulmonary adenomatosis and Visna-Maedi (Retro) is Progressive pneumonia
- Farmer's Lung in cattle is caused by - Micropolyspora faeni
- The virus having a unique 'double capsid'- Reovirus
- Viral etiology of neoplasms were first reported by- Ellerman and Bang
- The group specific antigen of ALV which is commonly used for COFAL test is - p27
- Recombinant DNA technology was first developed by- Cohen and Boyer
- Ephemeral fever (3 day sickness) is caused by - Rhabdovirus
- "Facial Eczema" in cattle is caused by Pithomyces chartarum (fungus with toxin sporidesmin)
- "Gall Sickness" is the synonym for- Anaplasmosis
- Antigenic variation in avian influenza virus is largely due to- Genetic Shift
- MAB technique for producing monoclonal Ig's was devised by- Kohler and Milstein
- Bence Jones proteins (light chains of Ig) are present in urine in -Multiple myeloma
- Rose-Waaler test is used for the detection of -Rheumatoid factor (IgM)
- The dose of Heparin used as an anticoagulant is- 10-20 IU/ml
- The media used to select the myeloma cells in MAB technique is- HAT medium
- The site present in an antibody to which an antigen binds is called- Paratope
- The vector for Reoviral Blue tongue in sheeps is- Culicoides spp
- "Pizzle rot" (Ovine Posthitis) in sheeps is caused by- Corynebacterium renale
- Gid, Sturdy, or Staggers is caused by-Coenurus cerebralis (T. multiceps)
- The most commonly used serological test ELISA was developed by- Engvall and Perlman
- The gene for virulence in ND virus and AI virus are-Fusion gene and HA gene (respectively)
- 'Tigroid heart' in calves is characteristic of- FMD
- Vascularization of Cornea is known as - Pannus
- The lesion in eyes of horses due to leptospiral infection - Periodic Ophthalmia
- "Blue eye" is the synonym for- Infectious Canine Hepatitis (adenovirus)
- "Hot Spot" (pyotraumatic dermatitis) is caused by- Staphylococcus aureus & S. intermedius.
- The interleukin often referred to as B cell growth factor is- IL-6
- FMD virus belongs to the genus- Aphthovirus
- 'Dropped Sole' in horses is a condition due to- Chronic Laminitis
- The etiological agent of Ephemeral fever in cattle is- Rhabdovirus
- Feline pan leucopenia is caused by- Parvo virus
- Avian Influenza is caused by Influenza A virus of the family- Orthomyxoviridae
- The principal source of Interferon β is - Fibroblasts
- SAT-1,2 and 3 are types of FMDV originated from- Africa
- The interleukin responsible for class switching of IgM to IgG is - IL-4

- The animal species that serves as " mixing vessel" for Avian and Mammalian flu is – Pig
- Disinfectant of choice against Anthrax bacilli- Gluteraldehyde (2%)
- HVT, the vaccine strain used against MDV (serotype I) belongs to- serotype III
- In birds, Avulavirus is the causative agent of - Newcastle disease
- The cell surface marker of memory T cells is- CD45RO
- In ALV infection, the tumor development is due to activation of oncogene called- c-myc
- Disinfectant of choice against FMD virus- Sodium Carbonate (4%)
- Staphylorraphy and Uranoplasty are techniques used to correct- Cleft palate
- Negri bodies for diagnosis of rabies can be detected using- Seller's stain

Malignant tumor of mesenchymal cells is referred as – Sarcoma

Epidemiology

1. Which is the first veterinary school?

2. Quarantine was first introduced by------

3. First animal virus ------- and was identified by ------- & -------

4. Disease which do not produce any overt clinical sign.

5. Study of outbreaks in avian population is known as-------

6. ------- Epidemiology involves observing and recording disease and possible causal factors.

7. ------- is the study of cause, distribution and control of disease in related individual and of inherited defects.

8. ------- is an examination of aggregation of units.

9. Survey records events occurring at a particular point of time.

10. Unit of an epidemiologist

11. ------- is the identification of undiagnosed cases of disease using rapid tests.

12. -------is the making of routine observation on health, production and environmental factors and recording and dissemination of these observations.

13. ------- investigate relationship between disease and hypothetic causal factors in specified population.

14. ------- is comparison of exposed group with non exposed group to the factors with respect to development of disease.

15. -------is any observable event that can vary.

16. Survey records events occurring for a long period of time.

17. ------- Factors are associated with the definite onset of disease.

18. Constant occurrence of disease in a population or usual frequency of occurrence of disease is known as-------

19. Sudden unpredictable number of cases in a population.

20. Widespread epidemic

21. Irregularly and haphazardly occurring diseases are known as -------.

22. Amount of disease in a population is given by-------

23. Amount of death in a population is given by--------

24. Time of occurrence of a disease constitute-------distribution

25. Place of occurrence of disease constitute -------distribution

26. -------is the number of instance of disease or related attribute in a known population at designated time, with out distinction of new and old cases.

27. -------is the number of new cases occur in a known population over a specified period of time.

28. -------is the proportion of cases of a contagious disease that develop as a result of contact with primary cases.

29. P ɑ I X-------

30. ------- is more intensive form of data recording.

31. Total mortality rate of all disease is known as-------

32. Map where line joining equal morbidity rate is ------- and mortality rate is-------

33. ------- is any characteristic that affects the health of a population.

34. Epidemiological triads are-------, ------- &-------

35. Ability of organism to cause disease in a particular host , in terms of severity is known as-------

36. ------- is quality of disease induction.

37. Sites with in genome that frequently mutate.

38. Infection of susceptible host with out overt clinical sign.

39. ------- is any animal sheds an agent with out clinical sign.

40. Animal which excrete agents during incubation period is known as-------

41. ------- Climate comprises of normal component weather to which animal are exposed.

42. Infection transmitted from one segment of population to the another segment of the population is known as--------

43. Infection transmitted from one generation to next generation is known as-------

44. Host in which agents are transmitted mechanically.

45. Host in which multiplication of agents takes place.

46. Inanimate vectors are called as-------

47. Cyclopropagative transmission is a combination of-------&-------

48. Example for stercorarian transmission.

49. ------- is the period between infection and maximum infectiousness.

50. Time between infection and availability of agent in an arthropod vector is known as-------

51. ------- relates the amount of organism required to initiate an infection.

52. The length of time for which and organism can remain infective outside its host is known as the -------

53. Switch from virulence to non-virulence

54. Transmission of disease from one generation to another via egg is known as.

55. Transmission from one developmental stage to another is known as-------

56. Rain forest are described as------- where as deciduous forest is -------

57. ------- is the natural restriction where animal can roam.

58. Part of the animals home range that it defend aggressively from invaders is known as----

59. According to Wynne Edward hypothesis population control was the main purpose of ----

60. Which is the functional position of an animal in an ecosystem?

61. Avoidance of competition is usually in -------animals.

62. Which is the smallest spatial unit providing uniform condition for life?

63. Collection of all living organism in a biotope is known as-------

64. Man made ecosystem

65. Junction of two ecosystem is known as-------

66. ------- is the modified patch of vegetation, created by man, with in a biome that has reached in a climax.

67. Study of disease in relation to ecosystem in which they are found is known as-------

68. Foci of infection.

69. An area that has ecological, social, and environmental condition that can support a disease is known as-------

70. ------- is a nosogenic territory in which a particular disease is present.

71. If all animal in a population are surveyed then it is known as-------

72. If relative risk is more than one it denotes-------

73. ------- is the decrease in mortality and morbidity.

74. Examples for primary prevention

75. Animal which excrete agents during recovery period is known as-------

76. Extinction of an agent

77. culling of infected animals during epidemic is often accompanies by the slaughter of animals that may have been exposed to infection and there fore be at risk of developing disease is known as -------

78. Proportion of animals that are resistant to infection or disease in population.

Answers:

1. Lyon, France 1762
2. Lancisi, physician to Pope Clement XI from Rinderpest
3. FMD,Loeffler and Frosch.
4. Subclinical infection
5. Epornitics
6. Descriptive
7. Genetic epidemiology
8. Survey
9. Cross sectional survey
10. Population
11. Screening
12. Monitoring
13. Cross sectional study
14. Cohort study
15. Variable
16. Longitudinal study
17. Precipitating factors
18. Endemic
19. Epidemic
20. Pandemic
21. Sporadic

22. Morbidity

23. Mortality

24. Temporal

25. Spatial

26. Prevalence

27. Incidence

28. Secondary attack rate

29. D(duration)

30. Surveillance

31. Death rate

32. Isomorbs, isomorts

33. Determinant

34. Host, gent and environment

35. Virulence

36. Pathogenicity

37. Hot spot

38. Inapparent infection

39. Carrier

40. Incubatory carrier

41. Macro

42. Horizontal transmission

43. Vertical transmission

44. Paratenic host

45. Amplifier host

46. Fomits

47. Developmental and propagative

48. T.cruzi

49. Generation time

50. Extrinsic incubation period

51. Infectivity

52. Stability

53. Phase variation

54. Trans-overian

55. Transtadial

56. Megatherms and mesotherms

57. Home range

58. Territory

59. Group behavior

60. Niche

61. Sympatric animals

62. Biotope

63. Biocenosis

64. Anthropurgic

65. Ecological interface

66. Ecological mosaic

67. Landscape epidemiology

68. Nidi

69. Nosogenic area

70. Nosoarea

71. Census

72. Positive statistical association between factor and disease

73. Control

74. Vaccination and quarantine

75. Convalescent carriers

76. Eradication

77. Pre emptive slaughtering

78. Herd immunity

Genetics

1. Who gave the theory of path coefficient? (a) Sewell Wright (b) Fisher (c) Haldane (d) Hazel *Answer>>*

2. Name the scientist who defined selection as "differential reproductive rate" ? (a) Hazel (b) Lush (c) Lerner (d) Falconer *Answer>>*

3. Heritability of a trait is given by (a) r_{AP} (b) b_{AP} (c) b_{GP} (d) none of above *Answer>>*

4. Inbreeding coefficient (F) in the first generation when half sibs are bred is (a) 0 (b) 0.062 (c) 0.125 (d) 0.250 *Answer>>*

5. Inbreeding coefficient (F) through full sib (brother X sister) mating reaches > 0.986 after how many generations (a) 10 (b) 15 (c) 20 (d) none of the above *Answer>>*

6. Variance of change in gene frequency after one generation of sampling is (a) $\frac{1}{2}N(p_0q_0)^2$ (b) $p_0q_0/2N$ (c) $1- p_0q_0$ (d) none of the above *Answer>>*

7. Response is not a function of (a) Selection intensity (b) Mean of the trait (b) phenotypic standard deviation of trait (d) h^2 of the trait *Answer>>*

8. Individual merit and family merit as basis of selection was proposed by _____ (a) Hazel and Lush (b) Hazel (c) Lush (d) Lerner *Answer>>*

9. Another name of selection intensity is _____ (a) Standardized selection differential (b) Weighed selection differential (c) Selection differential (d) Selection coefficient *Answer>>*

10. Selection procedure not widely used in poultry breeding is _____(a) Individual selection (b) family selection (c) progeny testing (d) sib selection *Answer>>*

11. The selection index method was introduced in animal breeding by _____ (a) Lush (b) Smith and Hazel (c) Lerner (d) Comstock *Answer>>*

12. A locus will contribute to a change of mean value on inbreeding only if _____ (a) Dominance is absent (b) There is epistasis (c) There is partial dominance (d) Dominance is not zero *Answer>>*

13. The covariance of the mean of the offspring and the mid parent is _____ (a) V_A (b) $\frac{1}{2}V_A+\frac{1}{4}V_D$ (c) $\frac{1}{2}V_A$ (d) V_G *Answer>>*

14. Intra-sire regression of offspring on dam estimates (a) heritability (b) repeatability (c) half of heritability (d) twice the heritability *Answer>>*

15. By increasing the intensity of selection, breeder can increase the _____ (a) response per unit time (b) response per generation (c) realized response (d) realized heritability *Answer>>*

16. The occurrence of heterosis on crossing is dependent on (a) non-directional dominance (b) directional dominance (c) presence of dominance (d) presence of heterotic genes*Answer>>*

17. A measure of variation which is correlated with the mean is _____ (a) variation (b) standard deviation (c) coefficient of determination (d) coefficient of variation *Answer>>*

18. The mean performance of line when expressed as the deviation from the mean of all crosses is called _____ (a) G.C.A of line (b) S.C.A of line (c) G.C.A and S.C.A of line (d) Average effect of the line *Answer>>*

19. Reciprocal recurrent selection (RRS) is used to improve (a) only G.C.A (b) only S.C.A (c) Both G.C.A and S.C.A (d) None *Answer>>*

20. Reciprocal recurrent selection was first proposed by_____in 1949 (a) Comstock, Robertson and Harvey (b) Comstock, Robinson and Harvey (c) Croas, Robertson and Fisher (d) Comstock, Lush and Hazel *Answer>>*

21. What increases or decreases the chance of fixation of a new mutant (a) Crossbreeding (b) Random drift (c) Selection (d) Inbreeding *Answer>>*

22. Variance due to general combining ability arises due to (a) $V_A + V_{AA} + V_{AD}$ (b) $V_A + V_{AA} + V_D$ (c) $V_A + V_{AA} + V_{DD}$ (d) $V_A + V_{AA} + V_{AAA}$ *Answer>>*

23. If the frequency of recessive gene in a population if 0.10, then what would be the frequency of this recessive gene after 4 generations of selection in which all recessive homozygotes are discarded (a) 0.001 (b) 0.071 (c) 0.005 (d) 0.021 *Answer>>*

24. The ratio of response to selection to selection differential is the: (a) degree of genetic determination (b) heritability in broad sense (c) realized heritability (d) heritability in narrow sense *Answer>>*

25. When response to selection has ceased, the population is said to be at (a) zero response (d) selection limit (c) Response limit (d) no response *Answer>>*

26. The maternal effect may show an asymmetry of response associated with (a) genes derived from dam (b) maternal component of the trait (c) Traits governed by xx chromosomes (d) traits governed by females hormones*Answer>>*

27. If additive gene action is most important for a trait, the best and simplest basis of selection is: (a) pedigree selection (b) individual selection (c) progeny testing (d) none *Answer>>*

28. If the environmental and genetic effects of a trait are different to distinguish the individual selection is: (a) advantageous (b) disadvantageous (c) equally efficient to other methods (d) none *Answer>>*

29. In an analysis of half sib families the component of covariance between sire is: (a) 1/2 COV_A (b) 1/4 COV_A (c) 3/4 COV_A (d) COV_{AB} *Answer>>*

30. Precision of heritability estimate depends on its: (a) standard error (b) coefficient of variation (c) sampling variance (d) all the above *Answer>>*

31. The panmictic index at t^{th} generation is (a) $P_t = (1+\Delta f)^t P_0$ (b) $P_t = (1-\Delta f)^t P_0$ (c) $(1-\Delta f_{t-1}) P_0$ (d) none above *Answer>>*

32. Highest genetic gain can be achieved by accurate estimation of breeding value by (a) sires of dams (b) dams of sires (c) sires of sires (d) dams of dams *Answer>>*

33. For predicting breeding value of a cow on basis of information on itself, its dam and paternal halfsibs we use _____ (a) Analysis of variance technique (b) Maximum likelihood technique (c) Multiple correlation technique (d) Multiple regression technique *Answer>>*

34. Family selection is better than individual selection when interclass correlation of phenotypic values is _____ (a) zero (b) 0.5 (c) >0.5 (d) <0.5 *Answer>>*

35. Faster rate of genetic improvement can be achieved in (a) dairy cattle for milk production (b) sheep for lamb production (c) Pig for litter size (d) broilers for growth rate *Answer>>*

36. In case of multiple trait selection, as compared to intensity of selection for each of the trait separately for 'n' traits under simultaneous selection, the selection intensity for combined selection would decrease by (a) n times (b) 1/n times (c) $1/\sqrt{n}$ times (d) 2n times *Answer>>*

37. If fixed number of sires are tested under farm progeny testing, the improvement in management practices in cows will improve _____ (a) intensity of selection of sires (b) accuracy of selection of sires (c) Selection differential of sires (d) none *Answer>>*

38. The correlated response obtained for a trait when selection is done on another trait is due to _____ (a) Linkage effect (b) pleotrophic effect (c) epistatic effect (d) dominance effect *Answer>>*

39. Hardy Weinberg law was formulated in the year (a) 1809 (b) 1908 (c) 1918 (d) 1928 *Answer>>*

40. Repeatability sets an upper limit to (a) V_A/V_P (b) V_G/V_P (c) both above (d) V_A/V_D *Answer>>*

41. In a population under H-W equilibrium, the maximum genotype frequency of heterozygote will be observed when the frequency of dominant gene is (a) 0.4 (b) 0.5 (c) 0.6 (d) 0.25 *Answer>>*

42. The genetic covariance of full sib is (a) 1/2 V_A (b) 1/4 V_A (c) 1/2 V_A + 1/4 V_D (d) 1/2 V_A + 1/2 V_D *Answer>>*

43. Number of generations 't' required to change the gene frequency from q_0 to q_t is _____ (a) q_t-q_0 (b) 2(q_t-q_0) (c) $1/q_t$ - $1/q_o$ (d) none above *Answer>>*

44. if 'L' is the load borne by the population, the average fitness of the population is _____ (a) 1-L (b) L-1 (c) 1/L (d) none *Answer>>*

45. If gene frequency in migrants is the same as that in the groups from and to which they go, migration affects: (a) quality of population (b) no. of population (c) neither quality nor number (d) both quality and number *Answer>>*

46. If 25% have the recessive phenotype (aa) and the population is in equilibrium with respect to this locus, then q is _____ (a) 0.25 (b) 0.5 (c) 0.75 (d) 1.00 *Answer>>*

47. The difference between the genotype value (G) and the breeding value (A) of a particular genotype is _____(a) dominance deviation (b) no dominance (c) directional dominance (d) none of the above *Answer>>*

48. The quantitative traits are governed by genes having large phenotypic effects are called (a) quantitative genes (b) major genes (c) minor genes (d) polygenes *Answer>>*

49. The correlation between breeding values and phenotypic values is equal to the square root of _____ (a) repeatability (b) regression (c) response (d) heritability *Answer>>*

50. The resemblance between offspring and parents provide the basis for (a) discrete breeding (b) inbreeding (c) random breeding (d) selection breeding *Answer>>*

51. selection brings about many changes in the population. The ultimate interest of the breeder may be in _____ (a) change in gene frequency (b) change in population mean (c) change in variation (d) extruding the range of traits *Answer>>*

52. The sum of the additive or average effects for all loci influencing a trait is referred as (a) additive genetic variance (b) average breeding value (c) dominance variation (d) epistatic variation *Answer>>*

53. Sibs selection is recommended for (a) sex linked traits (b) sex limited traits (c) sex influenced traits (d) none of the above *Answer>>*

54. The first progeny testing scheme was launched in India during first five year plan at: (a) Hissar (b) Karnal (c) Ludhiana (d) Anand *Answer>>*

55. The BLUP method for sire evaluation was suggested by _____ (a) Lush (b) Henderson (c) S. Wright (d) Fischer *Answer>>*

56. Nili-Ravi breed of buffalo is formed in (a) Punjab (b) Maharashtra (c) UP (d) Gujarat *Answer>>*

57. Project directorate on cattle was established in _____ (a) 1990 (b) 1985 (c) 1987 (d) 1986 *Answer>>*

58. Equal parent index (EPI) is an expression of: daughter production (a) higher than sire and dam production (b) lower than sire and dam production (c) half way between sire and dam production (d) equal to sire and dam production*Answer>>*

59. Variation without natural discontinuities is called continuous variation and character that exhibit it are called (a) metric character (b) correlated character (c) neutral character (d) balanced character *Answer>>*

60. The precision of heritability estimate is known by the _____ (a) standard error (b) magnitude (c) method of estimation (d) experimental design *Answer>>*

61. The description of the covariance, applicable to any sort of relationship is (a) between half and full sibs (b) between offspring and mid parent (c) between offspring and one parent (d) all the above *Answer>>*

62. Sire intra-class correlation (t) is _____ times of h^2 variance (a) 1/2 (b) 1/4 (c) 1 time (d) none above *Answer>>*

63. Disruptive process change gene frequency in a manner predictable in _____ (a) amount only (b) direction only (c) both (d) none *Answer>>*

64. The strength of selection is expressed as (a) coefficient of selection (b) response to selection (c) selection differential (d) none *Answer>>*

65. if 's' is the coefficient of selection then the relative fitness of the genotype selected against is : (a) S (b) 1-S (c) S/2 (d) none *Answer>>*

66. Genetic drift in small population is an example of _____ (a) systematic process (b) dispersive process (c) none of the above *Answer>>*

67. Degree of genetic determination is (a) h^2 in narrow sense (b) h^2 in broad sense (c) additive variance (d) none *Answer>>*

68. When repeatability is low, multiple measurements gives_____ gain in accuracy (a) large (b) a little (c) none *Answer>>*

69. The proportion of phenotypic variation expressed by repeatability is (a) permanent genetic variance (b) permanent environmental variance (c) both (d) special environmental variance *Answer>>*

70. The regression of offspring and one parent ($b_{op)}$ is given by _____ (a) V_A/V_P (b) 1/4 V_A/V_P (c) 1/2 V_A/V_P (d) 3/4V_A/V_P *Answer>>*

Answer Key

1.a	11.b	21.c	31.b	41.b	51.b	61.d
2.b	12.d	22.d	32.c	42.c	52.b	62.b
3.b	13.c	23.b	33.d	43.c	53.b	63.a
4.c	14.c	24.c	34.c	44.a	54.a	64.a
5.c	15.b	25.b	35.d	45.c	55.b	65.b

6.b	16.b	26.b	36.c	46.b	56.a	66.b
7.b	17.d	27.b	37.b	47.a	57.c	67.b
8.c	18.a	28.b	38.b	48.b	58.c	68.a
9.a	19.c	29.b	39.b	49.d	59.a	69.c
10.c	20.b	30.c	40.c	50.d	60.a	70.c

The term 'genetics' was coined by- Bateson (1906).

· Theory of germplasm was introduced by- August Weisman.

· Mendel studied the inheritance of seven different pairs of contrasting characters.

· % of homozygous offsprings in F2 generation of monohybrid cross is – 50

· The terms 'genotype' and 'phenotype' coined by- Johanssen

· Test to assess whether the individuals are showing dominant character due to homo or heterozygosity- Test cross

· Universally accepted Mendel's law is- Law of Segregation

· The term 'heterosis' was coined by- Shull (1910)

· Genes that influence more than one phenotype trait is called –Pleiotropic genes.

· Phenotypic ratio n incomplete dominance is – 1:2:1

· Dominance involves intragenic gene suppression while epistasis involve intergenic suppression.

· 'Yellow' in mice is an example of- dominant lethal condition

· Genotype that is a carrier for sickle cell anemia is – Hb

A

/Hb

S

· Expression of ancestral traits is termed as – Atavism.

· Qualitative characters like coat color, blood group etc. shows discontinuous

variation, where as quantitative traits like height, weight etc. shows continuous

variations.

· Alternative form of a normal gene is called- Allele

· Coat color in rabbits is an example of- Multiple allellism.

· Number of linkage groups in an orgainsim is equal to no: of chromosome pairs.

· Theory of linkage and concept of sex linked inheritance was proposed byThomas Hunt Morgan

· Rediscoverer's of Mendelian genetics was- Tschermack, Correns and Devries.

· Complete linkage is seen in – Male Drosophila· Sex-linked genes for hemophilia and colorblindness in man are examples of

Incomplete linkage

· Strength of linkage is inversely proportional to the distance between the genes and

the strength is reduced by temperature and X-rays

· Crossing over occurs between non-sister chromatids of homologous pairs of

chromosomes.

· Chances of crossing over more if genes are located- farthest

· 'Crossing over' takes place at the tetrad stage of meosis.

· Cell division characterized by splitting of nucleus followed by that of cytoplasm

is called – Amitosis.

· Spindle formation inhibition and arresting the cells in metaphase are done bycolchicine.

· Examples of mitotic poison- Colchicine, Ribonuclease and Mustard gas.

· During meosis, pairing of chromosomes occur at- Zygotene stage

· From one spermatocyte 4 haploid spermatids are formed where as one oocyte

forms single ovum.

· The term 'Chromosome' was coined by - Waldeyer

· Chromosomal basis of heredity was proposed by- Walter. S. Sutton.

· Chromosome with centromere in terminal position is called- Acrocentric.

· Chromosomes with subterminal centromere is called- Telocentric (J-shaped)

· Interphase chromosomes which are large and visible with naked eye are calledPolytene chromosomes.

· 'Cri-du-chat' or 'Cat cry syndrome' is caused by deletion in the short arm of 5^{th} chromosome

· Interchange of chromosome segments in non-homologous chromosomes is called Translocation

· The method devised by Muller for detecting X-linked mutations in Drosophila is

– CIB method.

· Classical experiments on Neurospora crassa was performed by- Beadle and

Tatum.· Substitution of a purine by a pyrimidine is called- Transversion

· Changes that involve replacement of one purine in a polynucleotide chain by

another purine is called- Transitions

· Alkylating agents capable of causing mutations are- Ethyl methane sulphonate

and Methyl methane sulphonate.

· Mutations caused by addition or deletion of nitrogenous based in the DNA or

mRNA are known as- Frame shift mutation.

· In interphase, nucleus of cells in females a dark stained chromatin mass is

observed called- Barr body.

1. Scientist who coined the term Genetics
2. What is the contribution of Wilhem Johanssen to Genetics?
3. Theory of pangenesis was proposed by ----------
4. The concept of Genotype and Phenotype was introduced by -----
5. Chromosome theory of heredity was proposed by
6. Germ plasm theory was put forward by
7. The nationality of Gregor Mendel who is regarded as "father of genetics"
8. In 1900, Mendel's work were rediscovered by -------

9. Law of Segregation is also known as-------

10. Human blood group type is an example of -----

11. ------ and ------- are two recessive traits that are inherited.

12. What is the ratio due to double recessive epistasis?

13. Linkage was first observed by--------- in sweet pea.

14. Crossing over occurs in the --------- stage of meiosis.

15. Chromosome number in fowl is ---------

16. Epistasis works at------ level where as Dominance always work at the ------level

17. What is penetrance ?

18. The degree to which a genotype is expressed phenotypically is called

19. Name the scientist who first discovered chromosomes

20. Who coined the term Chromosomes?

21. The organelle from which the r-RNA is synthesized

22. Metacentric chromosomes assume which shape?

23. Pairing of the homologous chromosomes takes place at ------- stage

24. Coiled filament that runs throughout the length of the chromosome is called

25. Darkly stained regions of the chromosomes at prophase is called ----

26. Sex chromatin are rich in -----------------

27. Where are Lampbrush chromosomes found?

28. The Octate structure in the nucleosome consists of ----

29. Balbiani rings or Chromosomal puffing are present in----------

30. Interphase of the cell cycle consists of ---------

31. Complete synaptonemal complex is found in which stage?

32. Sythesis of DNA is completed in -----stage of Meiosis

33. The unit representing a map unit between the linked gene……

34. Phenomenon by which crossing over in one region suppresses crossing over in adjacent region----

35. What is coefficient of coincidence ?

36. ----- is measured using coefficient of coincidence ?

37. In fowl females are heterogametic T / F

38. Barred plumage in poultry is a type of ----

39. Genic balance theory of sex determination was proposed by -------

40. ----- confirms the presence of barr body in female somatic cells.

41. -------syndrome which is caused by deletion of short arm of chromosome no 5

42. Point mutation was first noticed by ------- in Ancon sheep?

43. World's first chromosome map was produced by-------

44. The no . of chromosomes in Drosophila is --------

45. Haploid-Diploid type of sex determination is seen in ---------

46. In Drosophila sex is determined by the ratio of X chromosome to --------

47. Polyploids created by chromosome duplication is called --------

48. The presence of extra chromosome sets in a cell is called as ----------

49. which is the stain used for G banding----

50. The chart of images of chromosomes is called ----------

ANSWERS

1.William Bateson
2.Coined 'allele' and 'genes'
3.Darwin
4.W Johanssen
5.W S Sutton
6.Weismann
7.Austria
8.Hugo de Vries, Carl Correns Eric von Tschermack
9.Law of purity of gametes
10.Multiple alleles
11.Alkaptonuria and Phenylketonuria
12.9:7
13.Bateson and Punnet

14.Pachytene
15.78
16.Intergenic, Intragenic
17. % of individuals with a given genotypes which exhibits the related phenotypes.
18.Expressivity
19.Strassburger
20.Waldeyer
21.Nucleolus
22.‟ V ‟ shape
23. Zygotene
24.chromonema
25.heterochromatin
26.Heterochromatin
27. Primary oocytes of amphibians and spermatocyte of Drosophila.
28. Two molecules each of H2A, H2B, H3 and H4.
29.Salivary gland cells of Drosophila.
30.G_1, S and G_2
31.Zygotene
32.Zygotene
33.CentiMorgan
34.Interference
35.% of observed cross overs/ % of expected crossovers (RATIO)
36. Degree of interference
37.T
38.Sex linked character
39.C.B.Bridges
40.Lyon's hypothesis
41.Cridu-chat syndrome
42.Seth Wright
43.Alfred Sturtevant
44.8
45.Honey bees and wasps
46.Autosomes
47.Autopolyploid
48.Polyploidy
49.Giemsa
50.Karyotype

Meat Science

1. Muscle fibers of meat animals with diameters of 50 microns contains ----- no. of Myofibrils

2. The unit of myofibril between two adjacent Z discs is called -----

3.A typical mammalian muscle at rest has a sarcomere length of -------

4. Actin molecule has a --------- shape

5. Myosin constitutes approx --------% of myofibrillar proteins

6. --------- is the most abundant protein in animal body

7. --------- is the most abundant amino acid of collagen

8. Glycine constitute about -----% of amino acids of collagen

9. ---------- is the structural unit of collagen fibril

10. The cervical ligament of neck is made of --------fibers

11. --------- is the amino acid present in the greatest quantity in elastin

12. -------- & --------- are two unique amino acids present in elastin

13. The color of brown fat is due to high content of -------- in mitochondria

14. A primary muscle contains approx ------ number of muscle fibers

15. Intramuscular fat is called ---------- of meat

16. Intermuscular fat is also called --------- fat

17. The element which constitutes maximum % of animal body weight is--------

18. ---------- is the most abundant fatty acid in animal body

19. The most abundant carbohydrate in muscles----------

20. Average protein percentage of mammalian skeletal muscles-----

21. A genetic condition of cattle causing unusually thick bulging muscles.

22. Excessive fat infiltration in muscle fibers is called--------

23. An action potential enters the interior of a muscle fibers along ---------

24.Only about --------% of total blood volume can be removed via exsanguination.

25. The range of ultimate pH of meat is --------

26. The period of time during which the muscle is extensible and elastic is called---phase of rigor mortis.

27. ATP complexed with --------is required for a muscle to maintain a relaxed state

28. The decrease in tension with time is described as ------- of rigor mortis.

29. Holding carcass at refrigeration temperature after initial chilling is called--------in US &----in other countries

30. In------- condition of meat, there is lowered processing yield, increased cooking loss and reduced juiciness.

31. Cold shortening develops when muscle is chilled below --------before onset of rigor mortis.

32. Thaw rigor shortening is approx. ------- % of original length of muscles.

33.Marked shortening and early onset of rigor induced by maintaining muscles at high temp is called-------

34. Lipid oxidation in muscles is measured as -----values.

35. Loss of weight during storage of meat is called ----------

36. Lack of space for water molecules within protein structures is known as -------effects.

37. In well bled muscles, Myoglobin constitutes ------% of the total pigments.

38. The typical color of meat from pork is -------

39. The bright red color development of meat is due to oxymyoglobin is called

40. Oxidized myoglobin is called------

41. The bright pink color characteristic of cured meat is due to ---------

42. The amount of nitrite permitted in finished products by US meat inspection regulation is ----ppm

43. The sodium salts of ------- or -------- acids are most widely used cure accelerators.

44. The greening of cured meat pigment by excessive use of nitrites----------

45. Large fat particles coalesce at the end of the sausages to form -------

46. -----flavor develops due to lipid oxidation in pre-cooked frozen meat.

47. The heat resistance of microrganisms is usually expressed as ---------

48. To stabilize meat products, a radiation dosage of ----- megarads is used.

49, Loss of tenderness occuring in the first few hours postmortem is called--------toughning.

50. Cooked testicle of lambs, calves and turkeys are commonly called ------

ANSWERS

1. 1000-2000

2. Sarcomere

3. 2.5 microns

4. Globular

5. 45

6. Collagen

7. Glycine

8. 33

9. Tropocollagen

10. Elastin

11. Glycine

12. Desmosine and Isodesmosine

13. Cytochrome

14. 20 to 40

15. Marbling

16. Seam

17. Oxygen-65%

18. Oleic acid

19. Glycogen

20. 18.5%

21.Double Muscling

22. Steatosis

23. T-tubules

24. 50%

25. 5.3-5.7

26. Delay

27. Mg2+

28. Resolution

29. Aging , conditioning

30. PSE

31. 15-16 degrees

32. 60%

33. Heat Rigor

34. Thiobarbituric Acid

35. Shrinkage

36.Steric

37. 80-90%

38. Grayish Pink

39. Bloom

40. Metmyoglobin

41. Nitrosyl Haemochromogen

42. 200

43. Ascorbic or Erythorbic

44. Nitrite Burn

45. Fat Caps

46. Warmed Over

47.Thermal death time

48. 4.5

49. Actomyosin

50. Mountain Oysters

Microbiology

1. Koch's postulates was derived by using which bacterium ?

2. Kanagawa reaction is exhibited by...

3. Father of Microbiology

4. In presence of specific antibody, *Streptococcus pneumoniae* shows ------ reaction .

5. Father of Bacteriology

6. Small pox vaccine was developed by --------in the year1796.

7. A polymer of glycerol phosphate that is present only in G+ bacteria cell wall

8. Rabies vaccine was first done on

9. Loeffler and Frosch shares the credit of discovery of------

10. The only anti TB drug that has the ability to destroy the acid fastness of Mycobacterium

11. The bacteria that is used to evaluate the phenol coefficient using Rideal Walker method

12. Mastitis causing Str.agalactiae and Str. dysgalactiae are classified as group ----- and group---- respectively as per Lancefield classification.

13. The substance present normally in spores at high levels,but decreases during the favourable condition.

14. Greyish-white medusa head type of colony is shown by *Bacillus anthracis* in which medium ?

15. Chinese letter arrangement and metachromatin granules are features of ...

16. Agent that causes Summer Mastitis

17. Growth of *E.rhusiopathiae* is favoured by which aminoacid ?

18. Tuberculous lesions are prominent in digestive tract rather than in respiratory tract in ... ?

19. Etiological agent of Calf Diphtheria

20. Characteristic features of abortion in cattle caused by B.abortus

21.Type of vaccines used against brucellosis in calves & cows.

22. Kennel Cough in dogs caused by ... ?

23. Pasteurella, Yersinia and Listeria have one thing in common as part of their staining character.

24. Etiological agent of fowl coryza

25. Classification of Pasteurella species ?

26. The best medium for an enhanced growth of campylobacter

27. In Mc Konkeys agar, E.coli produces --------- colonies whereas Salmonella produces ------

28. Ringer and Gillespie medium is used for the growth of ....

29. 'Symptomatic anthrax is the synonym for....

30. Para anthrax in pigs is caused by ....

31. Gaint cells of Langhans are absent in T.B affecting which species ?

32. In H&E staining T.B calcification appear as..... color.

33. Epitheloid cells fuse to form syncytia and it enters .....stage in Johne's diseases.

34. Among domestic species ..... is most susceptible to anthrax.

35. Condition in sheeps under 1year of age, affected by Cl.septicum due to toxaemia

36. Pulmonary Adenomatosis in sheeps by retrovirus is ..... whereas Cl.botulinum type D infection in cattle is .....

37.Dunkop and Dikkop are forms of .....

38 Diagnostic test for E.I.A

39. Inclusion bodies in Fowl pox is ..... and in cow pox is.....

40. Instrument used to perform the Polymerase Chain Reaction

41. Ulcerative enteritis in poultry caused by .....

42. Infectious encephalomyelitis caused by Flavi virus transmitted by ixodes ricinus.

43 Granules present within the Guarnieri body.

44.Synonym for Infectious bulbar paralysis caused by Herpes.

45. Two medium used for the growth of mycoplasma.

46. In McFaydean reaction ,color of organism and capsule ?

47. Bursitis in horse caused by Brucella abortus

48. The etiological agent of 'Struck' in sheep

49. Bottle brush appearance in Gelatin stab is growth feature of .....

50. Visna/Maedi in sheep is caused by.....

SOLUTIONS :

1.*Bacillus anthracis*

2.*Vibrio parahaemolyticum*

3. Louis Pasteur

4. Quellung reaction

5. Robert Koch

6. Edward Jenner

7. Teichoic acid

8. Joseph Meister

9. FMD Virus

10. Izoniazid

11. Salmonella Typhi

12. B and C ; A is S. pyogenes

13. Calcium Dipicolinate

14. Nutrient Agar

15. Corynebacteria

16. *Corynebacteria pyogenes*

17. Tryptophan

18. Poultry

19. *Fusobacterium Necrophorus*

20. Necrotic placentitis and Leathery placenta

21. Strain 19 (living) and Strain 45/20(killed) respectively

22. *Bordetella bronchiseptica*

23. Bipolar staining

24. Haemophilus gallinarum

25. Robert's and Carter's serotyping

26. Thiol medium

27. Pink ; Colourless

28. Leptospira

29. Black Quarter

30. *Clostridium septicum*

31. Canines and Felines

32. Blue

33. Symplasma

34. Sheep

35. Braxy or Bradsot

36. Jaagsiekte ; Lamsiekte

37. African Horse Sickness

38. Coggin's Test

39. Bollinger bodies ; Guarnieri bodies

40. Thermocycler

41. *Clostridium colinum*

42. Louping ill

43. Paschen's granules

44. Psuedorabies/Mad Itch/Aujezky's disease

45. PPLO Agar and Frey's medium

46. Blue ; Pink

47. Poll Evil and Fistulous Withers

48. *Clostridium perferinges* Type C

49. *Erysipelothrix rhusiopathiae* and *Clostridium perferinges*

50. Retro virus

Animal Nutrition

I. Indicate True or False

1. Albumins are not soluble in water.
2. Elastins are fibrous proteins.

3. Triglycerides are known as fat.
4. G.E. content of fat is about 4 kcal/g.
5. Net yield of ATP per mole of glycerol is 21.
6. Thaer developed the first feeding standard.
7. Sucrose is sweetest of all the sugars.
8. Maltose is a reducing sugar.
9. Starch equivalent of wheat bran is 45.
10. Antibiotics are essential for large ruminants in feed.
11. NFE is determined by analysis.
12. BMR declines about 8% per year of age.
13. Vitamin E deficiency causes crazy chick disease.
14. VanSoest system of feed analysis was proposed in 1967.
15. Activity increment of cattle, sheep and swine is less when compared to poultry.
16. R.Q. for carbohydrate is 0.7.
17. Blood meal is deficient in isoleucine but rich in lysine.
18. Soybean meal is rich in methionine.
19. The pH of silage in A. I. V. method is kept below 4.
20. For guinea pig the Vitamin C requirement is 222 mg/kg DM of diet.
21. Zone of thermal neutrality for pig is 20-260C.
22. Chief route of phosphorus excretion in ruminants is urine.
23. Molybdenum deficiency in chicken causes femoral head necrosis.
24. Plasma calcium level is 4-5 mg/dL in most species.
25. Chromium deficiency causes impaired glucose tolerance.
26. Diammonium phosphate contains 18% Nitrogen and 20% Phosphorus.
27. Iron requirement for pig is 80mg/kg diet.
28. 1 IU of Vitamin E is equal to 1 mg α tocopherol acetate.
29. Menadione is both water-soluble and fat-soluble.
30. *Fibrobacter succinogens* is the chief fibre degrading bacteria in the rumen.
31. Fungal count in rumen is 103 to 105/ml of rumen liquor.
32. Specific function of rumen fungi is substrate penetration.
33. Sequestration is function of holotrich protozoa.
34. Microbe with highest protease activity in rumen is bacteria.
35. Majority of rumen bacteria are Gram positive.
36. *Butyrivibrio fibrisolvens* is a hemicellulose degrading bacteria.
37. Defaunation causes increase in bacterial and fungal biomass.
38. Yeast is a probiotic.
39. Trypsin acts on the peptide linkage involving aromatic amino acids.
40. Secretion of Brunners gland is alkaline.
41. Amino peptidase and di peptidase is secreted from small intestine.
42. Monensin supplementation increases methane production in ruminants.

43. The chief end product of purine metabolism in ruminants is allantoin.
44. Prehensile organ of cattle is lip.
45. MFN has no relationship with feed intake.
46. Maintenance requirement of dogs is 132 kcal/kgW0.75.
47. Haecker showed that nutritive requirements varied with quality and quantity of milk produced in dairy cattle.
48. Microbial digestion in rabbits takes place in proximal colon and caecum.
49. Armsby developed surface area law.
50. As per NRC, protein content in hamster diet should be 15%.
51. Methane is the chief rumen gas.
52. Struvite is Magnesium Ammonium Phosphate.
53. In dairy cows grazing resulted in a maintenance requirement that was 40% greater than when they were fed in the barn.
54. Terpenes yield isoprene moiety on degradation.
55. Lymph draining the intestine is always milky in ruminants.
56. Availability of calcium is 45%.
57. β oxidation of fat takes place in endoplasmic reticulum.
58. 1000 ppm TDS is ideal for water.
59. Cats are very sensitive to deficiency of arginine.
60. Metabolic water comprises 20-25% of total water intake of domestic animals.

II. Fill in the blanks

1. Taurine deficiency in cats results in .....
2. Lignin is associated with ..... in plants.
3. The true stomach of ruminants is .....
4. Cat cannot convert β Carotene to Vitamin A as it lacks the enzyme.....
5. Animal starch is .....
6. Hay cannot be stored if the moisture content is above .....
7. Ether extract in solvent extracted cake is .....%.
8. .....are the main proteins of connective tissue.
9. Toxic amino acid present in subabul .....
10. Cereals are deficient in the amino acid .....
11. 1 calorie =.....J
12. Methane contains .....kcal energy /g.
13. Chief VFA in rumen is .....
14. The practice of feeding extra concentrate in last 6-8 weeks of pregnancy is called .....
16. DCP requirement for milk production in goats is .....
17. Urea can replace about .....% of DCP requirement.
18. Optimum DM content of silage premix is .....

19. The mineral associated with the enzyme tyrosinase is .....
20. Safe upper limit of fluoride in water is .....ppm.
21. Dissecting aneurysm in chicken is due to deficiency of .....
22. Aflatoxin content in the feed of duck should not exceed .....ppm.
23. Minimum CP content of BIS Type I cattle feed is .....%.
24. ..... is the only VFA found in appreciable quantities in peripheral circulation.
25. Vitamin required in propionic acid metabolism is .....
26. Pica is due to deficiency of .....
27. An adult elephant requires .....kg green per day.
28. ..... is a measure of amount of water soluble steam volatile fatty acids.
29. Calcium deficiency in bitches results in .....
30. Grass staggers is due to deficiency of .....
31. N S P present in wheat is .....
32. Thumps in piglets is due to deficiency of .....
33. Father of the science of Nutrition is .....
34. Parakeratosis in swine is due to deficiency of .....
35. Optimum pH of silage is .....
36. ATP produced from 1 mole of propionate is .....
37. The enzyme Alcohol dehydrogenase has the mineral .....
38. The enzyme Arginase contains the mineral .....
39. Specific function of rumen bacteria is .....
40. Protozoa used for the evaluation of protein quality in feeds is .....

ANSWER KEY

I.

1. F
2. T
3. T
4. F
5. T
6. T
7. F
8. T
9. T
10. F
11. F
12. T

13. T
14. T
15. T
16. F
17. T
18. F
19. T
20. T
21. T
22. F
23. T
24. F
25. T
26. T
27. T
28. T
29. T
30. T
31. T
32. T
33. T
34. F
35. F
36. T
37. T
38. T
39. F
40. T
41. T
42. F
43. T
44. F
45. F
46. T
47. T
48. T
49. F
50. T
51. F
52. T

53. T
54. T
55. T
56. T
57. F
58. T
59. T
60. F

II.

1. Feline Central Retinal Degeneration (FCRD)
2. Cellulose
3. Abomasum
4. β Carotene dioxygenase
5. Glycogen
6. 15%
7. 0.5-1
8. Collagen
9. Mimosine
10. Lysine
11. 4.184
12. 13.34
13. Acetic acid
14. Steaming up
15. 2.5-3
16. 70 g/kg milk produced
17. 30 %
18. 35 %
19. Copper
20. 2 ppm
21. Copper
22. 0.03 ppm
23. 22%
24. Acetate
25. Vitamin B12
26. Phosphorus
27. 200 kg
28. Reichert-Meissl Number
29. Eclampsia

30. Magnesium
31. Arabinoxylan
32. Iron
33. Lavoisier
34. Zinc
35. 3.8-4.2
36. 17 ATP
37. Zinc
38. Manganese
39. Methanogenesis
40. *Tetrahymena pyriformis*

NUTRITION-III

· Father of nutrition- Antoine Lavoisier

· The yeast variety commonly known as "fodder yeast"-Torulopsis utilis

· Water content in the body of new bone calf is -80%

· In Van Soest method of feed estimation the ADF comprises of ----cellulose and lignin

· The only true ketogenic amino acid-leucine

· Fat contains -----% carbon-77

· A dietry excess of Tyrosine cause -eye lesions

· Dietry excess of Methionine produces -inhibition of ATP synthesis

· Zinc forms an integral part of enzyme- Carbonic anhydrase

· About 96% of plasma copper is bound to an alpha-2 globulin calledCeruloplasmin

· Organic acids promotes the absorption of calcium

· Curled toe paralysis is caused by the deficiency of -Riboflavin

· One IU of vitamin A is equivalent to 0.6mcg of beta-carotene

· Vitamin A promotes muco-polysaccharide synthesis by- activating sulphate molecule

· 'Ito cells' in the liver is the storage site of -Vitamin E

· Vitamin E is involved in the synthesis of -Ascorbic acid and ubiquinine

· Ascorbic acid was first isolated by-Szent Gyorgi

· A dermin or vitamin H is-Pyridoxine

· Niacin requirements can be compensated with-Tryptophan· The entire process of citric acid cycle take place in side mitochondria -under

aerobic condition

· Branching enzyme in glycogen synthesis is - Glycosyl 4,6 transferase

· Rate limiting step in glycogen synthesis is-addition of activated glycosyl units

· Apart from liver cells which other body tissue is capable of producing glucose-

intestinal cells

· "Alkali disease" or "blind staggers" is caused by the toxicity of -Selenium

· Glutathione and insulin contains-Sulfur

· Chromium deficiency may lead to - Impaired glucose tolerance

· Nickel is essential for urease activity of rumen microbes.

· Jerusalem antichoke contains the main reserve carbohydrate- Inulin

· The term "protein" is coined by-Mulder

· Who introduced the balance and thermometer in to nutrition studies for the first

time?-Antoine Lavoisier

· Pinnaglobulin contains Manganese and hemocyanin contains copper

· Legumes are exceptionally rich in - Calcium

· Germinating Barley contains a starch digesting enzyme called -Diastase

· Skim milk is the feed ingredient which can said to be rich in both- Calcium and

Phosphorus

· First accurate respiration calorimeter was constructed by -Rubner

· Starch equivalent system was designed by-Kellner

· According to NRC, the ME=DE x 0.85

· Physiological fuel values were devised by-Atwater

· Heat increment consists of -Heat of fermentation and Heat of nutrient metabolism

· Feces is the main route of phosphorus excretion in herbivores and urine is in case

of carnivores.

· Citrate ,lactate ,pyruvate ,ascorbate etc enhance the absorption of -Iron· RUMENSIN, MONENSIN modifies rumen fermentation by -promoting

propionate producing microbes

· In hibernating animals the RQ is - less than 0.7

· Whole blood contains from 35-45mg % phosphorus

· Glucosyl transferase needed in mucopoly sacharide synthesis depend onManganese

· 'Degnala disease' is caused by -Selenium toxicity

· Net gain of ATP while one mole of glucose is oxidized completely-36

· Scandinavian feeding system based on barley as the standard is introduced by Hanssen

· Urea toxicity results when the rumen ammonia level exceeds -80mg/100ml

· Leaves of plants contain galactolipid as the major lipid

1. Chairman of the scientific panel set up for the development of the first edition of feeding standard published by ICAR in 1985?
   N. D. Kehar

2. A scientist from KAU, who was a member of the sub-committee for drafting ICAR feeding standards for goats?
   M. Shivaraman

3. Feeding standards in U. K. is developed by?
   A R C

4. Starch digestibility in rumen ranges from?
   63-70%

5. Chief cellulose degrading bacteria of rumen?
   Fibrobacter succinogens

6. Only VFA present in appreciable quantity in peripheral blood as an important energy source?
   Acetate

7. Berseem is a plant from?
   Egypt

8. A I V method of silage making uses the acids?
   Sulphuric acid and Hydrochloric acid

9. Flieg index is a commonly used method for evaluation of?
   Silage quality

10. Silo-fillers disease is an illness of farm workers that is caused by inhalation of the oxides of?
    Nitrogen

11. "Vana Mahotsava" the annual festival of trees was inaugurated in?
    1950

12. Beneficial effect of condensed tannin in legumes is attributed to their ability to?
    Protect protein

13. Name two tannin complexing agents?
    Polyethylene glycol (PEG) and Polyvinylpyrrolidone (PVP)

14. 3,4 DHP (dihydroxypyridone) and 2, 3 DHP are the break down products of the antinutritional factor ……?
    Mimosin

15. Chief endproduct of purine metabolism in ruminants?
    Allantoin

16. A naturally occurring fatty acid found in ruminant products which has beneficial health attributes like anticarcinogenic activity, anti obesity and anti atherogenic activity?
    Conjugated linoleic acid (CLA)

17. Plants belonging to genus Brassica has the antinutritional factor……?
    Glucosinolates

18. Slobber syndrome and facial eczema in cattle is caused by the consumption of….?
    Mycotoxins (slaframine and swainsonine)

19. Hydrated sodium calcium aluminosilicates (HSCAS) are added in feed for?
    Binding mycotoxins

20. Maximum permitted level of aflatoxin in animal feeds (as per Prevention of food adulteration act)?

30 ppb (0.03 ppm)

21. BT cotton has the gene from the bacterium?
    Bacillus thuringiensis

22. Plant which is named Biodiesel?
    Jatropha

23. The oil seed crop that is produced in the largest amount in the world is?
    Soybean

24. Domesticated avian species having high requirement for Niacin?
    Duck

25. Mineral which is present in glucose tolerant factor?
    Chromium

26. Central Research Institute for Dry land Agricuture (CRIDA) is located at?
    Hyderabad

27. Tree loppings or prunings available as feed in silvipastoral system is termed?
    Top feeds

28. Name a selenium accumulator plant?
    Astragalus

29. N : S ratio of wool?
    5:1

30. The pathway of propionate production in animal consuming high fibrous diet?
    Succinate pathway

31. Term metabolizability denotes?
    ME/GE

32. Vitamin C requirement for guinea pig diet?
    200 mg/kg feed

33. Fodder feed is?
    Cow pea

34. VFA having maximum absorption rate is?
    Butyrate

35. Zinc deficiency causes infertility in males because it is a component of the enzyme……..?
    Thymidine kinase

36. Preferred source of enzyme for estimating degradability of protein in French PDI system?
    S. griseus (protease)

37. Alkaloid in legume which predispose bloat?
    Saponin

38. If no green grass is fed to ruminants the concentrate mixture should have Vitamin A at the rate of ……..?
    5000 IU/Kg

39. Other than HMP shunt, the conversion of …..to …… is a source of NADP in non ruminants?
    Malate to Pyruvate

40. Phosphorus content of bran?
    1.2-1.5%

41. Carprice reaction is concerned with the estimation of?
    Vitamin A

42. Antimetabolite of folic acid?
    Aminopterine

43. Fatal syncope in calves and pigs is due to deficiency of?
    Vitamin E

44. First discovered amino acid?
    Aspargine

45. Chief acid of silage is?
    Lactic acid

46. Silo with minimum spoilage is?
    Upright silo

47. Scotopsin is rich in the amino acid?
    Lysine

48. Meskawi is a common variety of the plant?
    Berseeem

49. Domesticated ruminant with highest BMR?
    Goat

50. Deficiency disease in which ceroid pigment is accumulated in adipose tissue of cats?
    Yellow fat disease/Pansteatitis (Vitamin E deficiency)

51. Colour of pure vitamin A?
    Colourless

52. Reference standard in a Bomb calorimeter?
    Benzoic acid

53. Brouwer equation is used to estimate?
    Heat production

54. A fungal enzyme added in poultry feeds containing barley?

ß glucanase

55. Ruminant which is most prone to both cobalt deficiency and copper toxicity?
    Sheep

56. Biological value of microbial protein?
    80

57. (DCP + DTP)/2 is ?
    Protein Equivalent

58. The pathway occurring in plants which is responsible for the conversion of fat to carbohydrate?
    Glyoxylate cycle

59. First two enzymes of urea cycle is located in?
    Mitochondria

60. Cell organelle involved in initial steps of alkoxy-phospholipid biosynthesis which leads to the production of plasmalogens?
    Peroxisomes

61. Aminoacid required for the production of carnitine?
    Lysine

62. ……..% of the nitrogen of milk is NPN?
    5%

63. Hammer mill works on the principle of/
    Impact grinding

64. Major pathway for ATP synthesis in tissues lacking mitochondria like RBC, cornea and lens?
    Glycolysis

65. Metals inhibiting pyruvate dehydrogenase complex?
    Arsenic and Mercury

Multiple Choice Questions

1. Efficiency of conversion of ß carotene to vitamin A is in the order?
    a. Rat>Ruminants> Pig> Poultry
    b. Rat>Poultry>Pig>Ruminants
    c. **Rat>Poultry>Ruminants>Pig**
    d. Pig>Poultry>Ruminants>Rat

2. Rumen degradable protein content is highest for?
    a. Soybean meal
    b. Coconut cake
    c. **Groundnut cake**
    d. Fish meal

3. The feed which is fed “whole” to poultry but “crushed” to cattle and pig?

a. **Pearl Millet**
b. Great Millet
c. Barley
d. Jowar

4. Experimental animals for determining GPV of a feed?

a. Rats
b. Rabbit
c. Guinea pig
d. **Chick**

5. Order of the efficiency of conversion of Tryptophan to Niacin?

a. Pig>Chicken>Duck>Cat
b. Cat>Chicken>Duck>Pig
c. **Chicken>Pig>Duck>Cat**
d. Duck>Chicken>Pig>Cat

6. Which of the following is common to salseed, sorghum and jowar?

a. Mucilage
b. **Tannin**
c. Glucosinolate
d. Mimosine

7. Colour of ruminant bile?

a. **Green**
b. Golden yellow
c. Orange
d. Colourless

8. DCP% is highest for?

a. **Lucerne hay**
b. Berseem hay
c. Oat hay
d. Wheat straw

9. Which of the following is required for Ubiquinone synthesis?

a. Vitamin A and Copper
b. Vitamin E and Selenium
c. Vitamin E and Copper
d. **Vitamin C and Selenium**

10. The order of toxicity is?

a. Tyrosin>Threonine>Methionine
b. Methionine>Threonine>Tyrosine
c. Threonine>Tyrosine>Methionine
d. **Methionine>Tyrosine>Threonine**

11. Which of the following is most important in inhibiting the digestibility of paddy straw?

a. Lignin
b. **Silica**
c. Hemicellulose
d. Oxalate

12. Concentration of Ammonia and Total VFA in rumen is highest for?
a. **Goat**
b. Buffalo
c. Sheep
d. Cattle

13. Most promising initial symptom of Vitamin A deficiency in cows and horses?
a. **Copius lacrymation**
b. Copius salivation
c. Xeropthalmia
d. Night blindness

14. …….% NDF in total ration is critical for maintenance of normal milk fat?
a. 66%
b. 18%
c. 73%
d. **36%**

15. Urea treatment of straw increases?
a. CP and DCP
b. TDN
c. Dry matter digestibility and feed intake
d. **All the above**

16. Pregnancy toxemia is seen in?
a. Sheep and Goat
b. Sheep and Rat
c. **Sheep and Guinea pig**
d. Sheep and Rabbit

17. Taurine requirement of cats is ……..mg/kg DM in diet?
a. 200
b. **500**
c. 800
d. 1000

18. Amino acid precursor of lignin?
a. **Phenylalanine**
b. Tyrosine
c. Alanine
d. Glycine

19. Mineral needed for acetate incorporation in cholesterol biosynthesis?
a. Calcium
b. Copper

c. **Manganese**
d. Magnesium

20. Microbe in rumen capable of breaking lignocellulosic bond?
a. Bacteria
b. Protozoa
c. **Fungi**
d. None

21. Protease activity in rumen is highest for?
a. Bacteria
b. **Protozoa**
c. Fungi
d. Bacteriophage

22. Naturally occurring fatty acid has …….configuration?
a. **Cis**
b. Trans
c. Both
d. None

23. Which of the following is common in nature?
a. D sugars and D amino acids
b. L sugars and L amino acids
c. **D sugars and L amino acids**
d. L sugars and D amino acids

24. The order of salt tolerance?
a. **Sheep>Cattle>Pig>Poultry**
b. Sheep>Pig>Cattle>Poultry
c. Cattle>Sheep>Pig>Poultry
d. Pig>Cattle>Sheep>Poultry

25. Urea supplementation is not recommended if CP content of ruminant diet is above?
a. 18%
b. 25%
c. 7%
d. **13%**

26. Which of the following deficiency contribute to perosis?
a. Manganese and Choline
b. Biotin and Folic acid
c. Thiamine, Manganese, Choline, Biotin and Folic acid
d. **Vitamin B_{12}, Manganese, Choline, Biotin and Folic acid**

27. Order of tolerance of aflatoxin?
a. Chicken>Guinea fowl>Duck
b. Duck>Guinea fowl>Chicken
c. **Guinea fowl>Chicken>Duck**
d. Chicken>Duck>Guinea fowl

28. Arrange the susceptibility to aflatoxin by domestic animals in descending order?

a. **Rabbit> Pig> Cattle>Sheep>Chicken**
b. Pig>Rabbit>Sheep>Chicken>Cattle
c. Chicken>Rabbit>Pig>Sheep>Cattle
d. Cattle>Sheep>Rabbit>Pig>Chicken

29. Which of the following is used as energy source (not protein source)?

a. Linseed meal
b. **Salseed meal**
c. Mustard cake
d. Sunflower cake

30. All reactions in TCA cycle are reversible except the formation of?

a. **Succinyl CoA**
b. Succinate
c. α keto glutarate
d. Fumarate

31. Which of the following cereal has more lysine content?

a. Rice
b. Wheat
c. Corn
d. **Oats**

32. β oxidation can occur in?

a.Mitochondria
b. Peroxisomes
c. Both
d. Endoplasmic reticulum

33. Glycosphingolipids and glycoproteins are synthesized in?

a. Golgi body
b. Mitochondria
c. Endoplasmic reticulum
d. Glyoxysomes

34. Rate limiting enzyme in cholesterol biosynthesis?

a. α 1-4 glucosidase
b. HMG CoA reductase
c. Squalene synthetase
d. 7 α hydroxylase

35. For fatty acid synthesis, Acetyl CoA comes from mitochondria to cytoplasm as?

a. Carnitine
b. Malate
c. Citrate
d. Oxaloacetate

NOTE: THE ANSWERS TO THE MCQ IS GIVEN IN BOLD RED COLOR

Parasitology

1. Enzymes involved in hatching of Ascarid egg: Chitinase and esterases
2. McLean counting system is devised for : *Ascaris suum*
3. An ascarid without somatic migration: *Toxascaris leonina* (*A. galli* belongs to Family heterakidae)
4. Herring worm: Anisakis
5. Cod fish worm: Phoconema
6. Hourglass shaped esophagus in : *Oxyuris equi*
7. Hourglass shaped buccal capsule found in : *Oxyspirura mansoni*
8. Funnel shaped pharynx: *Haebronema megastoma*
9. Cup shaped buccal capsule with cusp shaped teeth: *Stephanurus dentatus*
10. Parasite responsible for "ungroomed rat tail appearance" in horse: *Oxyuris equi*
11. Caecal worm of poultry: *Heterakis gallinae*
12. Nematodes with "H" shaped excretory system: Rhabditidae
13. Characteristic "ear" shaped (dorsal) tooth in : *Strongylus vulgaris*
14. "Morocco leather" appearance associated with: *Ostertagia ostertagi*
15. "Ring worm like lesions" associated with: Trichostrongylus spp
16. "Horse shoe" shaped ovary: *Echinococcus granulosus*
17. "Boot" shaped spicule: *Dictyocaulus filariae*
18. "Heart" shaped spicule: *Nematodirus baltus*
19. "Lancet" shaped spicule: *Nematodirus fillicolis*
20. "Spoon" shaped spicule: *Nematodirus spathiger*
21. "Y" shaped dorsal ray: *Haemonchus contortus*

22. Recurved spicules: *Gaigeria pachyscelis*

23. No spicule: *Trichinella spiralis*

24. Black scours worm: *Trichostrongylus colubriformis*

25. Barber's pole worm/ wire worm/ large stomach worm/ twisted stomach worm: *Haemonchus contortus*

26. Eyeworm of poultry: *Oxyspirura mansoni*

27. Brown stomach worm: *Ostertagia ostertagi*

28. Red stomach worm of pig: *Hyostrongylus rubidus*

29. Fox hook worm: *Uncinaria stenocephala*

30. Pig hook worm: Globocephalus (*G. urosubulatus, G. longimucornatus*)

31. Elephant hook worm: Barthomostomus (*B. sangeri*), *Grammocephalus clatheratus*

32. Lungworm of dog: *Filaroides osleri*

33. Lungworm of cat: Aleurostrongylus spp

34. Lungworm of rat: *Angiostrongylus cantonensis*- causes "eosinophilic meningio encephalitis" in man

35. Eddy worm: Class Turbellaria

36. Larva with "S" shaped tail: *Filaroides osleri*

37. Nurse cells characteristic of *Trichinella spiralis*

38. "Stichosomes" are characteristic of: Trichurid esophagus

39. "Cordons" in: Ascaridae

40. "Bosses" in: Gongylonema

41. Cuticle extended posteriorly beyond the tail of worm: Physaloptera spp

42. Bursa strengthened with chitinous plate: Protostrongylus spp

43. L1 with characteristic cuticular knob: *Dictyocaulus filariae*

44. L1 with button hook tail: *Dipetelonema dracunculoides*

45. Anterior helmet seen in: *Dracunculus medenensis*

46. Definitive host of *Dioctophyma renale*: mink
47. The dish "Fessikhs" is associated with: *Heterophyses heterophyses*
48. The dish "Marrara" is associated with: Sparganosis
49. Phenomenon of "progenesis" is associated with: Family Plagyorchidae
50. "Furcocercus cercaria": Schistosomes
51. "Microcercus cercaria": Paragonimidae
52. "Xiphido cercaria": *Dicrocelium dendriticum*
53. Radia with "procruscula": Fasciola spp
54. Nematodes with flame cells: Class Acanthocephala (*Macracanthorrhyncus hirudinaceus*)
55. Halzoun syndrome associated with: Fasciolosis and spirometrosis
56. Cestode with "sickle" shaped hooks: Taenia spp
57. Cestode with "rosethorn" shaped hooks: *Dipylidium caninum*
58. Cestode with "Hammer" shaped hooks: Davinia spp
59. Cestode with "bunch of grape" ovary: *Dipylidium caninum*
60. Metacestode tetrathyridium is seen in: Family Mesocestoides
61. Metacestode strobilocercus seen in: *Taenia taeniformis* (as Cysticercus fasciolaris)
62. "Lapets" present in: *Anoplocephala perfoliata*
63. "Dumbbell" shaped uterus: *Stilasia hepatica*
64. Fringed tape worm: *Thysanosoma actinoides*
65. Gravid uterus is replaced by egg capsule in: Family Linstowiidae
66. Cooked rice grain appearance: monezia gravid segments
67. Cucumber shaped segments: gravid segments of *Dipylidium caninum*

Following diseases/conditions are associated with

1. Milk spots: *Ascaris suum*
2. Balling up in horse: *Parascaris equorum*
3. Mud colour faeces: *Toxocara vitulorum*
4. Rat tail appearance: *Oxyuris equi*
5. Black head: *Heterakis gallinae* (Egg carrier of *Histomonas meleagridis*)
6. Parasitic otitis: *Rabditis bovis*
7. Black scours: Trichostrongylus worms
8. Villous atrophy: Trochostrongylus and Nematodirus
9. Ringworm lesions: Trichostrogylus
10. Morocco leather: *Ostertagia ostertagi*
11. Pulpy kidney disease (with *Cl. welchi*): nematodirus
12. Swimmer's itch: Schistosoma spp (non human)
13. Foot rot in sheep: *Strongyloides papillosus*
14. Pimply gut: Oesophagostomum spp
15. Colic in horse: *Cythiostomum tetracanthum*
16. Haemorrhagic warts (in tracheal bifurcation): *Filaroides osleri*
17. Fistulous whither: *Onchocerca cervicalis*
18. Eosinophilic meningeo encephalitis in man: *Angiostrongylus cantonensis*
19. Wahi /kaseri/ summer mange: Onchocerca spp
20. Bursati / granular dermatitis/ summer sore: Habronema (cutaneous habronemiasis)
21. Arteritis in horse: strongylidae family
22. Oesophageal tumour: *Spirocerca lupi*
23. Gastric tumour: *Gnathostoma spinigerum* and *Habronema megastoma* (*Draschia megastoma*)
24. Cholangiocarcinoma: *Clonorchis sinensis* (oriental liver fluke/Chinese liver fluke)

25. Urinary bladder carcinoma: *Schistosoma haematobium*
26. "Swine fever" and epizootic pneumonia: Metastongylus spp
27. Husk or hoose: *Dictyocaulus viviparous*
28. Enzootic cerebrospinal nematodiasis: *Setaria digitata*
29. Hump sore: *Stephanofilaria assamensis*
30. Ear sore: *Stephanofilaria zaheeri*
31. Fatal hemorrhagic enteritis in mink: *Euryhelmis squamula*
32. Rot dropsy: Fasciola spp
33. Snoring in cattle: *Schostosoma nasalis*
34. Nodular taeniasis in poultry: *Reilettina echinobothrida*
35. Hepatitis cysticercosa: *Cysticercus tenuicollis*
36. Gid/Staggers: Coenurus cerebralis (of *Taenia multiceps*)
37. False gid: *Oestrus ovis* (larva)
38. Macrocytic / pernicious anemia: *Diphyllobothrium latum*
39. LD bodies: Leishmaniosis
40. KB bodies: Theileriosis
41. Visceral Leishmaniosis: *Leishmania donovani, L. chagasi, L. infantum*
42. PKDL: *L. donovani*
43. Kala azar: *L. donovani*
44. American kala azar: *L. chagasi*
45. Rural zoonotic leishmaniasis: *L. major*
46. Chiclero ulcer/ bay sore: *L. mexicana mexicana*
47. Classical espundya: *L. braziliensis braziliensis*
48. Uta: *L. peruviana*
49. Nagana: *Trypanosoma brucei, T. congolensi, T. vivax*

50. Souma: *T. vivax* in cattle
51. African sleeping sickness: *T. brucei gambiensi, T. brucei rhodasiensi*
52. Surra: *T. evansi*
53. Tibarsa /Gufar: *T. evansi* in camel
54. Mal de Cadares: *T. equinum*
55. Dourine / equine syphilis: *T. equiperdum*
56. Dollar spots: *T. equiperdum*
57. Yellow buttons: *Trichomonas gallinae* (Avian trichomonosis)
58. Saucer shaped ulcer in tissue: *Histomonas meleagridis*
59. Suphur yellow faeces: *Histomonas meleagridis*
60. Travellers diarrhea: *Giardia lamblia*
61. Flask shaped ulcer: *Entamoeba histolytica* (in intestine)
62. Red dysentery: *Eimeria zuernii* in cattle
63. Rectal coccidiosis: *Eimeria burnetti*
64. Ladder lesions in duodenum: *Eimeria acervulina*
65. Signet ring: Plasmodium spp
66. Texas fever/Red water fever/Bovine pyroplasmosis: Babesia spp in cattle
67. Equine biliary fever: *Babesia equi (*now as *Theilaria equi)*
68. Tropical bovine theileriosis: *Theileria annulata*
69. Benign tropical thieileriosis: *T. mutans*
70. East coast fever/ January disease: *T. parva*
71. Buffalo disease/Corridor disease: *T. lawrensi*
72. Malignant theileriosis: *T. hirci*
73. Gall sickness: *Anaplasma marginale*

Pathology

1. 'Punched out ulcers' in abomasum- pathognomonic lesion of ?

2. Negri bodies in cattle with rabies seen in ....

3. Father of pathological anatomy

4. Father of cellular pathology

5.Lysosome first demonstrated by.....

6. Most reactive free radical in inducing cell damage

7. Removal of damaged organelle during cell injury is called as .....

8. Component of cytoskeleton useful in tumor diagnosis

9. Eosinophilic, intracytoplasmic inclusion in liver in alcoholic liver disease

10. Condition in which impairment of phagocytic property of WBC occurs.

11. Best fixative for glycogen

12. Stains for glycogen (any two)

13. Macrophage laden with lipids in atherosclerosis called as....

14. Russel bodies seen in ....?

15. Partial or complete loss of melanocytes in the epidermis...

16.Pigments causing 'Brown Atrophy'

17. Aggregates of ferritin micelles called...

18. Heart failure cells are .....

19. Unconjugated hyperbilirubinemia is indicative of .....jaundice.

20. Direct Van den berg reaction is indicative of .....jaundice

21. Color of faeces in obstructive jaundice

22. Hyperkeratosis in cattle common in which poisoning ?

23. Type of necrosis involved in hypoxic cell death in the CNS

24. Necrosis in which architectural details persist but cellular details are lost.

25.Enzymes important in apoptosis

26.Conditions in which PM clotting of blood doesn't occur.

27.Pathological calcification without derangement in blood calcium levels.

28. Special stain for demonstrating Calcium in tissues.

29. 'Tophi' is related to which disease ?

30. Condition characterized by green refrigence of Congo red stained sections under polarizing microscope.

31. Name the anaphylatoxins

32. Chemical mediators from arachidonic acid metabolism via cyclooxygenase pathway.

33. 'Triple response' in tissue inflammation was formulated by .....

34. Colloidal carbon technique is used in identifying .....

35. Name some SRS-A(slow reacting substances of anaphylaxis)

36. Cationic proteins produced by eosinophils toxic to parasites.

37. Suppurative inflammation of hair follicles caused by Staph. aureus

38. Diffuse spreading suppurative inflammation of connective tissues

39. Modified macrophages in case of granuloma are called ...

40. Granulation tissue is a hallmark of .....

41. Adhesive glycoproteins of Extra-cellular matrix.

42. Condition in which cardiac sclerosis/ cardiac cirrhosis occurs.

43. Alteration from a less specialized cell type to more specialized ones.

44. A malignant tumor which doesn't metastasize

45. Oncogenes discovered by.....

46. 'Sticker tumor' discovered by Novinsky is better known as ....

47. Reed Sternberg Cells are typical of ...

48. Horn cancer is most commonly seen in Bull or Bullocks ?

49. Black tongue/ canine pellagra is caused by.....

50. Rodent ulcer is better known as .....

Solution:

1.Theileriosis

2.Cerebellum

3.Antonio Benevieni

4.Rudolph Virchow

5.Novikoff

6.Hydroxyl radical

7.Autophagy

8.Intermediate filaments

9.Mallory body

10.Chediak Higashi syndrome

11.Non-aqueous fixatives(methyl alcohol)

12.Best carmine & PAS

13.Foam cell

14.Plasma cells

15.Vitiligo

16.Lipofuscin

17.Hemosiderin

18.Alveolar macrophage laden with Hemosiderin

19.Prehepatic jaundice

20. Obstructive jaundice

21. Grey / Clay color

22. Chlorinated naphthalene poisoning

23.Liquefactive necrosis

24. Coagulative necrosis.

25.Caspases

26.Anthrax & Sweet clover poisoning

27.Dystrophic calcification

28. Van Kossa's Silver nitrate

29.Articular gout

30.Amyloidosis

31.C_{3a} and C_{5a}

32.Thromboxane A2 and Prostaglandins

33. Sir Thomas Lewis

34. Leaking vessels in inflammation

35.Leukotrienes like LTC_4, LTD_4, LTE_4

36.Major Basic Proteins

37.Boils

38.Cellulitis

39.Epitheloid cells

40.Healing

41.Fibronectin & Laminins

42. Chronic general passive hyperemia

43.Metaplasia

44. Basal Cell Carcinoma

45.Michael Bishop& Harold Varmus

46.Canine Transmissible Venereal Tumor.

47.Hodgkin's disease

48.Bullock

49.Niacin deficiency

50. Basal cell carcinoma

Pharmacology

1. Plasma protein to which majority of drugs bind is ---------

2. ---------- is the principal metabolic pathway for sulfonamide compounds

3. Precursor of endogenous catecholamines in the body is--------

4. Drug of choice in acute anaphylactic shock is ------

5. OP compound that interact with both esteratic and anionic site of acetylcholine esterase is -----

6. A racemic mixture of d-hyoscyamine and l-hyoscyamine is --------

7. What are soporifics?

8. The term "Anaesthesia" was coined by ------

9. Precursor of serotonin is ------

10. What are endorphins?

11. Species that require more amount of anaesthetics is-------

12. The avian species in which procaine is contraindicated is -----

13. In which breed of dogs thiobarbiturates are contraindicated?

14. Paralysis of ------ is a complication encountered in anaesthesia of Horse

15. Which stage of anaesthesia is bypassed by barbiturates?

16. Laryngyospasm during induction of anaesthesia is more common in -------

17. Specific treatment for malignant hyperthermia in Pigs caused by halothane is-----

18. Oxidation of chloroform to phosgene can be prevented by adding -----

19. Barbiturates are derivatives of ----------

20. Oxytetracycline is obtained from ----------

21. ---------- is a benzimidazole with antifungal property

22. Primary mechanism of action of Mebendazole is inhibition of --------- by worms

23. Wormicidal drug that can be given as immunomodulator at lower doses is -------

24. Two chemical components seen in Ivermectin are ----- and --------

25. Drug active against immature stages of *Fascioa hepatica* is ----------

26. Antidote for Cyanide poisoning was discovered by ---------

27. Organochlorine compound which does not accumulates in the body is ----------

28. The enzyme in haeme synthesis which is inhibited by lead poisoning is ---------

29. *Conium maculatum* is better known as ---------

30. Dose of BAL in Arsenic poisoning in Large animals is ----------

31. --------- is the metabolic product of Procaine

32. Give an example of a specific COX-2 inhibitor

33. Old Hen Test is used to detect ---------- potential of Organophoshate compounds

34. ---------- is a type of retinal degeneration caused by Bracken Fern Poisoning

35. The specific antidote for Copper poisoning is ----------

36. Violent Dyspnoea "Thumping" is seen in pigs as a result of ----------

37. Animal species to which Benzene Hexa Chloride is highly toxic is -------

38. Highly potent Organophosporous compound is ---------

39. The synergists that is added to pyrethroid compounds in order to enhance its effect is ----

40. What are Burton's Lines?

41. Specific antidote for Nitrate poisoning is ----------

42. Gentamicin, the aminoglycoside drug is obtained from ---------

43. The Fungal toxin that causes reproductive problems in sows is --------

44. The anti BP drug Atenolol belongs to which group of Antiarrythmic Agents ?

45. Most potent H_2 Blocker is ----------

46. Most potent Local anaesthetic is---------

47. What does " Utectic Mixture " contain?

48. The most potent of all the Aflatoxins is------

49. Father of Pharmacology is ------

50. Izoniazid and Ethambutol are the drugs used in the treatment of --------

Solutions

1. albumin

2. Acetylation

3. phenylalanine

4. epinephrine

5. Echothiophate

6. Atropine

7. sleep inducers

8. Oliver Wendell Holmes

9. Tryptophan

10. Endogenous analgesics

11. Horse

12. Parakeet

13. Grey Hounds

14. facial nerve

15. Stage 2

16. cats

17. Dantrolene

18. 1% ethanol

19. Malonyl Urea

20. *Streptomyces rimosus*

21. Thiabendazole

22. Glucose uptake

23. Levamisole

24. B_{1a} and B_{1b}

25. Diamfenetide

26. K K Chen

27. Endosulfan

28. Aminolevulinic acid dehydratase

29. Hemlock

30. 3mg/kg @ 4hr interval deep i/m

31. PABA

32. Cefocoxib

33. Organo Phosphorous Induced Delayed Neurotoxicity

34. Bright blindness

35. D-penicillamine

36. Gossypol poisoning

37. cat

38. Parathion

39. Piperonyl Butoxide

40. Blue line in gums in lead poisoning

41. Methylene Blue

42. *Micromonosporum purpureum*

43. Zearalenone

44. Class 2

45. Famotidine

46. Bupivacaine

47. Prilocaine and Lidocaine

48. B_1

49. Rudolf Bucheim

50. Tuberculosis

1. Fibrous proteins contains the .....which are the main proteins of .....

2. The chemical name of vitamin D2 is .....whereas D3 is .....

3. .....concerned with night vision is a .....pigment

4. The enzyme like .....breakdown fat into .....and.....

5. The inorganic element present in the arginase is ..... It splits arginine into .....and .....

6. Antivitamin K activity is exhibited by (a) biotin (b) dicumarol (c) sulfanilamide (d) caproic acid

7. Gossypol of cotton seed meal react with (a) zinc (b) manganese (c) iron (d) selenium

8. Nutritional roup is due to deficiency of (a) vit A (b) vit B6 (c) vit K (d) vit E

9. Pastures are classified in (a) silage (b) roughage (c) additives (d) succulent forages

10. A calorie is the amount of heat required to raise the temperature of 1g water from (a) 12.5 to 13.5 (b) 14.5 to 15.5 (c) 15.7 to 16.7 (d) 10.2 to 11.2

11. For determination of metabolizable energy instrument used is (a) metabolizable energy meter (b) bomb calorimeter (c) barometer (d) energy thermometer

12. Keratin are proteins of (a) arteries (b) DNA (c) hairs (d) connective tissue

13. Protamines are basic proteins associated with nucleic acids are rich in (a) tyrosine (b) tryptophan (c) methionine (d) arginine

14. weight gain per unit weight of protein consumed refers to (a) biological value (b) gross protein value (c) protein efficiency ratio (d) essential amino acid index

15. denaturation of proteins in chicken occurs in (a) oesophagus (b) proventriculus and gizzard (c) crop and pancreas (d) small and large intestine

16. vitamin E was discovered by (a) Funk (b) Hopkins (c) Evans and Bishop (d) Mc Collum and Davis

17. Maintenance of normal cerebrospinal fluid pressure is physiological function of (a) riboflavin (b) pyrodoxin (c) retinol (d) folic acid

18. selenium is an essential component of enzyme (a) coenzyme A (b) D aminoacid oxidase (c) glutathione peroxidase (d) choline esterase

19. "clubbed down condition" occur due to deficiency of (a) pterylglutamic acid (b) riboflavin (c) menaquinone (d) cholecalciferol

20. vitamin H is the old name of (a) nicotinic acid (b) folic acid (c) tocoferol (d) biotin

21. laying hens most efficiently utilized phosphorus from which of the following sources (a) phytate phosphorus (b) phosphorus of cereal grains (c) disodium phosphate (d) dicalcium phosphate

22. which of the fowl has a single medium wattle (a) red jungle fowl (b) ceylon jungle fowl (c) grey jungle fowl (d) javan jungle fowl

23. white leghorn are white because (a) no colour gene (b) a dominant gene which inhibits color (c) recessive white gene (d) they have silver gene

24. the best breed for using as male line in broiler production is (a) white rock (b) Cornish (c) New Hampshire (d) Australorp

25. the wild .....is the ancestor of all domestic duck breeds

26. immature ducks up to age of 8-11 weeks are called.....

27. the black and white barring in barred Plymouth rock is due to .....barring gene

28. in a sex-linked cross involving barring, the female parent is a .....

29. in a sex-linked cross involving silver and gold, the silver gene carrying .....parent is used

30. in a sex-linked cross involving silver and gold, the gold gene carrying .....parent is used

31. in a sex-linked cross involving feathering gene, a late feathering .....parent is used

32. which one is sex linked (a) dwarfism (b) nakedness (c) albinism (d) rapid feathering

33. egg shell treatment is done to reduce the rate of .....loss

34. shank length and width is a good indicator of .....

35. blood meal is deficient in essential aminoacid.....

36. maximum level of molasses which can be included in chick feed.....

37. metablizable energy value of maize grain.....

38. the best protein source among the plant protein sources.....

39. poultry need one more essential aminoacid .....than cattle

40. eggs are pasteurized primarily to destroy bacteria pathogenic to humans especially.....

41. eggs act as .....agent in baked foods

42. hens egg contains about.....grams of protein

43. a component of egg white having antibacterial activity

44. compared to red meats, poultry meat contain a higher proportion of .....(saturated/unsaturated fatty acids)

45. which of the following is not a glucan (a) starch (b) inulin (c) cellulose (d) dextrins

46. which of the following was considered lately as an essential mineral for poultry (a) molybdenum (b) zinc (c) selenium (d) chromium

47. weight loss of broiler between farm and processing plant is .....%

48. darkening of egg yolk in hard boiled eggs is due to .....formation

49. .....is done for recycling of birds to get another cycle of egg production

50. conalbumen complex with .....

51. .....is the trypsin inhibitor in egg

52. avidin complexes with.....in egg

53 one molecule of avidin complexe with.....molecules of biotin

54. hen become sexually active at the age of .....weeks

55. length of ovulatory cycle in birds is .....

56. within a clutch, the interval from oviposition to the following ovulation averages about.....

57. abolishing 'bearing down reflex' results in .....

58. minimum time from spermatocyte stage to the production of mature spermatozoa is.....

59. the daily turn over of calcium in the normal laying hens is .....% of her total body calcium

60. if the left ovary of a 15 days old chick is removed, the right ovary will become an .....

61. the sperm host glands of avian oviduct are located at .....of oviduct

62. chicken sperms are able to utilize.....for energy purpose

63. the fertilized chicken egg when laid contains an embryo at .....stage

64. the avian testes are soft because they lack .....commonly found in mammals

65. extra retinal .....present in birds produce the effects of light in blinded birds

66. Body temperature of fowl is.....

67. Upper lethal temperature of fowl is .....

68. Fresh poultry excreta contains.....% water

69. Threshold photoperiod for poultry.....

70. For maximum egg production, the photoperiod is .....

ANSWERS

1. collagens, connective tissue
2. ergocalciferol, cholecalciferol
3. rhodopsin, bright red
4. lipase, fatty acids and glycerol
5. magnesium, ornithine and urea
6. dicumarol
7. iron
8. vitamin A
9. succualnt forage
10. 14.5 to 15.5
11. bomb calorimeter
12. hairs
13. arginine
14. protein efficiency ratio
15. proventriculus and gizzard
16. Evans and Bishop
17. Retinol
18. glutatione peroxidase
19. riboflavin
20. biotin
21. disodium phosphate
22. Javan jungle fowl
23. dominant gene that inhibits color
24. Cornish
25. mallard
26. green duck
27. sex linked
28. barred Plymouth rock
29. female
30. male
31. female
32. rapid feathering

33. carbon dioxide
34. skeleton size
35. isoleucine
36. 5%
37. 3300 kcal/kg
38. soybean meal
39. glycine
40. salmonella
41. leavening agents
42. 6-7
43. lysozyme
44. unsaturated
45. inulin
46. chromium
47. 5-10
48. ferrous sulfide
49. forced/induced moulting
50. iron
51. ovomucoid
52. biotin
53. 4 (avidin has 4 subunits and each subunit complex with one molecule of biotin)
54. 18-20
55. 25-26 hrs
56. 35 minutes
57. delay in oviposition
58. 12 days
59. 10
60. ovotestis
61. uterovaginal junction
62. glucose
63. gastrula
64. connective tissue septa

65. photo receptors

66. 40.6-41.7 degrees Celsius

67. 47 degrees Celsius

68. 70-80%

69. 9-10 hours

70. 14 hours

END

Sample Questions – VETERINARY SCIENCE

1. Which of the following inhibits aggregation of platelets
   - Aspirin; Thromboxane A_2; Urokinase; Streptokinase
2. The longest muscle in animal body is:
   - Biceps femoris; Longissimus dorsi; Longissimus costarum; Levator costarum
3. Epithelial pearls are seen in
   - Basal cell carcinoma; Adenocarcinoma; Trichoepithelioma; Squamous cell Carcinoma
4. Motility of bacteria is due to
   - Plasmid; Flagella; Pili; None
5. The organ needs to be examined for *Trichinella spiralis* in routine PM examination
   - Lungs; Diaphragm; Spleen; Intestine
6. The following have branching except:
   - *Actinomycetes; Nocardia; Mycobacterium; Listeria*
7. The zoonotic disease involving birds playing an important role in the transmission:
   - Salmonellosis; Campylobacterosis; Influenza; All
8. GnRH is secreted from:
   - Hypothalamus; Hypophysis; Ovary; Uterus
9. Thawing is done at:
   - 30^0C-30s; 37^0C-30s; 40^0C-30s; 25^0C-20s
10. Hjarre's disease in poultry is due to
    - *E coli; Shigella; Salmonella; Proteus*
11. Type of lenses in electron microscope:
    - Glass; Electrostatic; Quartz; None

12. Average volume of semen ejaculate in boar (ml) is:
- 10; 100; 250; 500

13. The anaesthesia which facilitates the examination of penis and prepuce
- Epidural; Pudental; Paravertebral; High Epidural

14. Brcella ovis infection in ram is causes
- Posthitis; Epididymitis; Orchitis; Prostatitis

15. Calcitonin is secreted by
- Parathyroid; Adrenal; Thyroid; Ovary

16. Type of WBC most numerous in cows is
- Eosinophils; Lymphocytes; Neutrophils; Monocytes

17. Duration of spermatogenesis (days) in buffalo bulls:
- 64; 54; 48; 40

18. The antibiotic doesn't have dose dependent antibacterial action
- OTC; Amikacin; Enrofloxacin; Sulfadiazine

19. The estrogen antagonist used to treat mammary and endometrial carcinoma in bitch
- Megestral acetate; Tamoxifen citrate; Estradiol cypionate; Mitotane

20. Cyclozoonosis is related to:
- Brucellosis; Echinococcosis; Leishmaniosis; None

21. Subacute glomerulonephritis is groslly described as
- White Spotted Kidney; Large White Kidney; Small Granular Contracted Kidney; Flea Bitten Kidney

22. Vagus nerve is:
- Sensory Nerve; Motor Nerve; Mixed Nerve; Spinal Nerve

23. Ovulation takes place at the end of estrus period in:
- Canine; Bovine; Ovine; Caprine

24. The following is to be injected prior to any major surgery/ wound management in horses
- Antibiotics; Styptics; NSAIDs; Tetanus toxoid

25. The following produces Aflatoxin:
- *Penicillum notatum; Penicillium rubri; Aspergillus fumigates; Trichophyton* sp.

26. Acute gangrenous myositis is characteristic pathological lesion of:
- Anthrax; BQ; Leptospirosis; Pasteurellosis

27. Type of Nucleic acid present in virus:
- DNA; RNA; Both; Either

28. World environment day falls on:
- February 12; April 8; June 5; October 4

29. Lobulation of the lungs is distinct in:
- Cow; Horse; Dog; Fowl

30. The number of Lumbar vertebrae in dog is:
- 6; 5; 7; 8

31. Mode of hook worm infection is mainly through
- Oral; Skin Penetration; Lactogenic; All

32. The nucleated thrombocytes are present in blood of:
- Horse; Camel; Fowl; Cow

33. The disease not produced by Mycoplasma

- CRD; CBPP; CCPP; BSE

34. The following species not affected by FMD
- Elephant; Gaur; Rhino; Wild Boar

35. Type of animals equines are:
- Polyestrus; Seasonally Polyestrus; Monoestrus; None

36. Bitterness of milk is due to
- Proteolysis; Lipolysis; Autolysis; All

37. The important vitamin that inactivates free radicals
- Vitamin A; Vitamin B; Vitamin D; Vitamin E

38. Which of the following diseases in poultry is not vertically transmitted?
- EDS 76; Mycoplasmosis; Lymphoid Leucosis; New Castle Disease

39. The ingredient of blister is:
- Mag sulph; Bin Iodide of mercury; Copper sulph; Iodine

40. The vector through which Trypanosomes are transmitted
- *Tabanus; Anopheles; Culicoides; Boophilus*

41. Camel is
- Spontaneous Ovulator; Induced Ovulator; Silent Ovulator; None

42. The largest immunoglobulin
- Ig G; Ig M; Ig A; Ig D

43. An example of long duration local anaesthetic
- Bupivacaine; Lignocaine; Lidocaine; Paracaine

44. The chemical used to control snail population
- Copper sulph; Pot hydroxide; Carbon tetrachloride; None

45. The infective stage of *Schistosoma* spps.
- Eggs; Sporocyst; Cercaria; Metacercaria

46. Reserpine is obtained from
- *Ocimum sanctum; Adhatoda vasica; Leptadena Reticulare; Rauwolffia serpentine*

47. Soil erosion is due to:
- Deforestation; Soil Formation; Soil Conservation; All

48. Diffuse suppuration in the sub cutaneous tissue is
- Pustule; Phlegmon; Acne; Furuncle

49. During second stage of parturition there is a release of an extra amount of
- Oestrogen; Progesterone; Oxytocin; PGF_2 alfa

50. *Brucella* organisms multiply in the presence of the alcohol
- Glucose; Galactose; Erythritiol; Fructose

51. Domestic sewage contains the following
- Chemicals; Organic Matter; Highly Toxic Substances; All

52. Gasping is a symptom in:
- ILT; Avian Influenza; Avian Leucosis; Ranikhet Disease

53. The sporadic disease is:
- HS; Tetanus; FMD; Avian Influenza

54. The leucocytic granules more toxic to parasites
- Eosinophils; neutrophils; basophils; lymphocytes

55. The target organ of shock in dogs is

- Liver; Lungs; Intestine; Heart

56. Electrical stunning is widely used in
- Cattle, Poultry; Pig, Poultry; Buffalo, Poultry; Sheep

57. The vector for *Leishmania* is
- *Phlebotomus; Culicoides; Tabanus; Musca*

58. The presentation of fetus in breech presentation is
- Anterio Longitudinal; Posterior Longitudinal; Dorso Transverse; Ventro Transverse

59. During recent outbreak of Avian Influenza in South East countries, subtype has been identified
- H5N1; H5N2; H2N9; H1N5

60. Garlic like odour of gastrointestinal contents is suggestive of poisoning with
- Nitrate ; HCN; Alkali; Phosphorus

61. The extracellular parasite
- *Babesia*; *Theileria*; *Anaplasma*; *Trypanosome*

62. Occupational radiation hazards can be prevented by wearing an apron of
- Aluminium; Copper; Lead; Silver

63. The largest deer found in india
- Sambar; Nilgai; Spotted Deer; Barasingah

64. The state bird of Gujarat
- King Vulture; Saras Crane; Pea Fowl; Flamingo

65. Campylobacterosis is diagnosed by
- Milk Ring Test; HA; Intradermal Inoculation; Vaginal Mucous Agglutination Test

66. Cubonis test is used to diagnose pregnancy in
- Bitch; Mare; Sow; Cow

67. Programmed cell death is called
- Phagocytosis; Mytosis; Necrosis; Apoptosis

68. Rodent control is very much effective in control of
- Leptospirosis; Plague; Salmonellosis; All

69. The term epsilon is associated with
- Brucellosis; Enterotoxaemia; Marek's Disease; Erysipelas

70. Blow gun rifle is fairly accurate for the target up to the distance of
- 40 metres; 80 feets; 80 metres; 40 feets

71. A live vaccine among the following
- HS; *Brucella* S19; BQ; Rabies

72. A well established protozoal disease transmitted by way of milk
- Toxoplasmosis; Giardiosis; Cryptosporidiosis; None

73. Cells spermatids are
- Haploids; Diploids; Tetraploids; Triploids

74. Navicular bone in horses
- Patella; Proximal Sesamoids; Febella; Distal Sesamoids

75. Length of gestation in mares
- 9 months 9 days; 8 months 8 days; 10 months 10 days; 11 months 11 days

76. Ingestion of *Lantana* foliage causes

- Hepatotoxicity And Secondary Photosensitization; Acute Enteritis; Pulmonary Haemorrhage; Nephrotoxicity

77. Parasite of pulmonary artery
- *Sarcoptes; Cysticercus; Toxoplasma; Dirofilaria immitis*

78. Irritant and non isotonic drug solution are injected by which route
- Intravenous; Intramuscular; Sub Cutaneous; Intraperitoneal

79. Deaths among clinically affected animals indicates
- Incident Rates; Morbidity Rate; Fatality Rate; Prevalence Rate

80. The stomach fluke disease is caused in cattle due to
- *Paramphistomum cervi; Moniezia expansa; Fasciola hepatica; Neoascaris vitulorum*

81. In paraffin block making technique fat/lipid is dissolved by
- Formaline; Xylene; Paraffin; Alcohol

82. Electron microscope was invented by
- Leewenhock; Pastuer; Knoll and Ruska; Elford

83. The characteristic lesion in brain of cow affected by mad cow disease
- Neuronal Degeneration; Neuronal Vacuolation; Inclusion Bodies in Neurons; Encephalitis

84. Antihypertensive drug with angiotensin converting enzyme inhibiting action
- Prazosin; Verapamil; Frusemide; Captopril

85. Apex of bovine heart is attached by
- Cardio thoracic ligament; Pericardio sternal ligament; Cardiac phrenic ligament; Coronary ligament

86. Purkinjee cells are noted in the
- Myocardium; Cerebellum; Cerebrum; Myometrium

87. Michael Bishop and Harold Varmus were awarded Nobel Prize in 1989 for their work on
- Monoclonal Antibodies; Proto Oncogenes; Chemical Carcinogens; Apoptosis

88. Bioterrorism is associated with
- Echinococcosis; Anthrax; Leishmaniosis; Tuberculosis

89. Caecal coccidiosis is caused by
- *E acervulina; E magna; E tenella; E necatrix*

90. Name the drug of choice for treatment of Thieleriosis
- Suramin; Buparvaquon; Nitrothiozol; Clopidol

91. An antibiotic that interferes with bacterial cell wall synthesis
- Gentamicin; Penicillin; Sulphonamide; None

92. Fundamental germ layer
- Ectoderm; Mesoderm; Endoderm; Mesenchymal Cells

93. Agar is composed of
- Protein; Lipids; Carbohydrates; Mixture of all three

94. Rabies virus is
- Viscerotropic; Neurotropic; Dermotropic; None

95. Reverse transcriptase enzyme is present in the virus family of
- Pox; Adeno; Retro; Irido

96. The drug active against cestodes
- Pyrantel; Thiophanate; Hexachlorophene; Praziquantel

97. The desirable limit of fluoride (mg/l) in human drinking water is

- 1; 3; 5; 7

98. The inflammation of hoof of horse is called
- Synovitis; Bursitis; Naviculitis; Laminitis

99. The brachicephalic breed of dog
- Collie; Pug; Doberman; German Shepherd

100. Warfarin poisoning is treated by administration of Vitamin
- K; E; A; C

101. Lemberts pattern is not used for sutured
- Uterus; Urinary Bladder; Oesophagus; Rumen

102. The smallest virus
- Fowlpox; FMD; Ranikhet Disease; Avian Leukosis

103. Atropine :
- Reduces metabolic rate;
- Reduces salivary, gastric and bronchial secretion;
- Reduces body temperature
- Decrease intestinal motility

104. The larva that causes VLM
- *Toxocara canis; Ascaris suum; Ancylostoma caninum; Dirofilaria immitis*

105. The microchromosomes are seen in
- Cattle; Horse; Poultry; Dog

106. Othaematoma is the haematoma involoving
- Eye and Ear; Ear; Eye; None

107. Punched ulcers in abomassum is caused by
- *Babesia bigemina; Theileria annulata; Anaplasma marginale; Babesia bovis*

108. Death of animal suffering from rabies occurs due to
- Neuritis; Gastritis; Asphyxia; Paralysis

109. Cattle genome is made up of how many organic bases
- 2.9-3.1 trillion; 2.9-3.1 billion; 2.9-3.1 million; 2.9-3.1 lakh

110. Brooder pneumonia is caused by
- Aspergillus flavus; Aspergillus ochoreceal; Aspergillus parasiticus; Aspergillus fumigatus

111. Paralysis of hind quarter is termed as
- Hemiplegia; Diplegia; Quadriplegia; Paraplegia

112. Teat surgery is more successful during which stage
- Lactating Stage; Dry Stage; Post Pubertal Stage; None

113. Pipe stem liver condition is seen in which of the following infection
- *Fasciola hepatica; Moneizia expansa; Dicrocelium dentriticum;* None

114. The diabetes insipidus develops due to deficiency of
- ADH; Glucagon; Insulin; Aldosterone

115. An important source of biofuel is (Ethanol)
- Jowar; Oat; Sugarcane; Rice

116. Main immunoglobulin protecting mucosal surface is:
- Ig M; Ig A; Ig G; All

117. Surgical removal of stones from the urinary bladder is known as
- Nephrectomy; Cystotomy; Penectomy; Nephrotomy

118. The reference test for diagnosis of rabies
- FAT; AGPT; Agglutination; ELISA

119. Toxic principle present in cotton seed is
- Sinigrin; Gossypol; Tannin; Mimosin

120. Microglia cells are present in
- Blood; Bone Marrow; Pancreas; Brain

121. Suturing of the uterus after the Caesarean section starts from
- Ovarian end; Cervical end; Middle of the uterus; Either of end

122. Anaesthesia is produced when the blood concentration of chloroform reaches to level of
- 0.035%; 0.35%; 0.053%; 1.035%

123. Surgical operation for providing drainage from middle ear is known as
- Zepps Operation; Hyovertebrotomy; Ventriculectomy; Bulla osteotomy

124. T lymphocytes get maturity in organ
- Liver; Thymus; Spleen; Bursa

125. Antibacterial drug associated with nephrotoxicity is
- Tetracycline; Chloramphenicol; Streptomycin; Levofloxacin

126. Kohler and Mihlstein are known for the achievement in
- Hybridoma; Nucleotide sequencing; Viral Culture; Prion discovery

127. Bronze discoloration of liver is characteristic feature of
- Pullorum Disease; Fowl Cholera; Fowl Typhoid; Spirochaetosis

128. Double stranded RNA is found in
- Retro Virus; Reo Virus; Pox Virus; Parvo Virus

129. The total dry matter requirement of cow
- 3% of body wt; 3% of metabolic body wt; 5% of body wt; 1% of body wt

130. Raw egg feeding in dog may produce deficiency of
- Biotin; Cholin; Niacin; Pantothenic acid

131. Catgut is prepared from the intestine of
- Rabbit; Sheep; Pig; Cat

132. Sodium calcium EDTA is used as antidote in poisoning of
- Arsenic; Mercury; Lead; Copper

133. The common infectious disease affecting snake
- Brucellosis; Pasteurellosis; Salmonellosis; Tuberculosis

134. WTO is related with
- Environment; Biodiversity; International tourism; International trade

135. Nervous sign in ketosis is due to
- Hypocalcemia; Hypoproteinemia; Hypoglycemia; Hypophosphatemia

136. Amputation of horn in goats can be done by blocking of
- Cornual nerve; Infraorbital; Cornual and Infraorbital; None

137. The range of pH of rumen liquor
- 2-3; 5-7; 7-8; 3-5

138. Highly toxic poison has oral LD_{50} value of
- <1 mg/kg; 1-50 mg/kg; 50-100 mg/kg; 1-50 mg/kg

139. The molecules is an endogenous antigen

- MHC Type I; MHC Type II; MHC Type III; MHC Type E

140. Thin membranous partition between lateral ventricles of brain
- Tapetum lucidum; Septum lucidum; Intradorsal septum; Inter ventricular septum

141. Whales and dolphins breathe through
- Gills; Spiracles; Body surface; Lungs

142. The following characteristic palpable through the rectal examination for the pregnancy diagnosis in 35 days in cattle
- Asymmetry of uterine horn; CL on ovary; Slipping of foetal membrane; All of above

143. To relieve the right side uterine torsion, animal should be cast in
- Left side; Right side; Dorsal recumbency; Sternal recumbency

144. The ligament surgically cut for correction of subluxation of patella in bovine
- Dorsal; Ventral; Middle; Medial

145. Dilated pupils and fish eye appearance is observed in which stage of anaesthesia
- Stage 3; Stage 1; Stage 2; Stage 4

Entrace Exam Questions – VETERINARY SCIENCE

ANATOMY

1. Purkinjee cells are seen in-
2. Mammary gland is a type of (gland)-
3. Spur core of the fowl is originated from the fusion of- (bone)
4. The unpaired muscle in the body is-
5. The largest foramen in the body is-
6. The single ear ossicle in fowl is-
7. Rathke's pouch determines the development of-
8. Duodenal diverticulum is seen in-(spps)
9. The only cranial nerve that emerges from the dorsal surface of the brain is-
10. The narrow septum dividing lateral ventricles of the brain-
11. Pancreas is a type of- exo/ endocrine / both (choose)
12. Hassal's corpuscles are seen in-
13. Malpighian corpuscles are in- (organ)
14. Vater Pacinian is seen in- injury/high temp/low temp/cold (choose)

PHYSIOLOGY

15. Pace-maker of the heart
16. Chief mineralocorticoid seen in mammals is-

17. Hormone that arises from anterior pituitary with similar action of prolactin is-
18. Aldosterone is secreted from-
19. Hemophilia A is due to the lack of clotting factor-
20. Life span of feline RBC-
21. The instrument used to detect dysfunction of muscle in body-
22. Pepsinogen is secreted from- (cells)
23. Cells associated with clot formation-
24. Spps with normal mature nucleated RBC-
25. Respiration rate in normal healthy horse per minute is-
26. Cholesterol is synthesized from- (compound)
27. ESR of which spps is found highest-

PARASITOLOGY

28. Infectious stage of Moneizia is-
29. Parasite associated through the milk is-
30. Pinworms in equines is-
31. Protozoan disease transmitted via the ova of worm- (nematode)
32. Parasite associated with Vit B12 deficiency -
33. The smallest and most pathogenic tapeworm of poultry-
34. Furcocercus cercaria is associated with-
35. Black disease in sheep is associated with the parasite-
36. Synonym of Paramphistomosis is-
37. The biology and epidemiology of kala azar is associated with the flies-(common name)
38. The tryps transmitted by way of coitus is-
39. Mite causing depluming itch in poultry is-
40. Punched out ulcer in abomassum is due to -

PATHOLOGY

41. Thrush breast heart is mainly associated with -
42. Bacon spleen is seen in- (type of degeneration)
43. Pearl stain is used in staining-
44. Uremia is seen in conjunction with- vomitting/ abdominal pain / ascites (choose the right one)
45. Counterpart of neutrophils in aves is-
46. Stage of pneumoniae in which clear fibrin thread seen is-
47. In Van den Bergh's test, biphasic reaction is seen in- (type of jaundice)
48. In dermoid cyst-(characteristic feature)
49. In obstructive jaundice blood level of - is seen elevated.

50. Atelectiasis is the collapse of-
51. Smudge cells are broken-(type of WBC)
52. Plasma cells are formed from-
53. Pseudomelanosis coli is –
54. In FMD the lesion accompanies is- vesicular/diphtheretic/necrotic/ulcerative stomatitis (choose)
55. Negri bodies are seen in rabies infected cattle in-(site)
56. Bronze discoloration of liver in poultry is the pathognomonic feature of-

EPIDEMIOLOGY

57. The smallest area which provides all possible conditions of life-
58. Constant presence of disease in an area-

MICROBIOLOGY

59. Immunoglobulin associated with parastic immunity-
60. Hybridoma is the fusion of:
61. Cause of Black disease in sheep (subtype of bacteria)-
62. Stormont test is used to diafnose-
63. ABR test is used for-
64. CAMP test is used to diagnose-
65. LPS is found in-bacteria as antigenic
66. Viral disease possessing both i/n and i/c inclusion body-
67. The viral disease associated with i/n inclusion body in trachea of poultry is-
68. Watery whites are seen in-
69. Family cervidae is vaccinated using-
70. The antibiotic used for black leg is-
71. Hemolytic uremic syndrome is caused due to-- strain of E coli
72. In 2005-06 the strain of influenza virus that caused the avian inflenza is-
73. Neoplastic diseases of poultry
74. Spread of Mareks is via-
75. Contagious ecthyma spreads by way of-
76. Autoclaving is done at-
77. Brooder pnuemonia is caused due to-
78. The positive agglutination titre of bovine brucellosis in IU/ml-
79. Experimental animal of choice in Glanders is-
80. Antigenic determinant site is termed as-

PHARMACOLOGY

81. Site of action of penicillin-

82. Viomycin is originated from-
83. Clavulanic acid is apotent inhibitor of-
84. Gunmetal kidney is seen in - toxicosis
85. Crooked calf syndrome is due to consumption of-
86. As per Codex Alimentarius the max permissible level of Aflatoxin M1 in milk is-
87. The drug of choice for straining animals in case of defaecation is-
88. The fungal origin autonomic drug is-
89. Neurotoxin present in Cobratoxin has the principle-
90. Novobiocin and TC are used for the treatment of-
91. Drug used as anthelminthic orally and parentrally-

PUBLIC HEALTH

92. Anthrax vaccinated animal is to be withheld for a period of-days before slaughter
93. A country when declared to be free from rabies if there is no incidence of rabies for the last - years
94. 'Green rots in eggs' is caused by-

CLINICAL MEDICINE

95. The anion given at the time of pregnancy to prevent milk fever is-
96. Downer cow is seen as a complication to-
97. Eclampsia is a nervous disorder and is known as- (motor irritation/ convulsion- choose)
98. Metabolic acidosis is due to-
99. Colloid used to prevent dehydration-
100. Vitamin E deficiency is manifested as-
101. Vagal indigestion is due to the adhesion of- (rumen/ reticulum/ omassum/ abomassum- choose)
102. The daily Vitamin A requirement in cattle in IU/kg-
103. The mineral deficiency associated with parakeratosis in swine is-
104. Lactation tetany is mares is mainly due to-
105. The mineral associated with Vit B12 synthesis is-

SURGERY

106. The local anaesthetic used in case of dental surgery is-
107. Propofol anaesthesia recovery in dogs is rapid and smooth
108. The site for epidural anaesthesia-
109. Dilated pupil and fish eye is the feature of IV stage of anaesthesia

110. Comminuted fracture can be classified on the basis of-
111. The quality of radiograph depends on-
112. Tension band wiring is used in – (type of fracture)

GYNAECOLOGY

113. Number of motile spermatozoa in cattle for AI is-
114. Substance used as cryogen in equine semen is-
115. Reduced concentration of Spermatozoa is called-
116. For the expression of estrus in cattle, oestrogen is secreted from-
117. The AI in pigs is done at (site)-
118. The site of AI in cattle is-
119. Endometrial cups in equines are from- (fetal/maternal- choose)
120. RFM in cattle is said to occur if retained for-(time in hrs.)
121. Superovulation in cattle is induced by- (hormone)
122. Physiological t1/2 of progesterone is-
123. The four limbs of the cow if presented in the birth canal is indicative of – (twinning; dog sitting posture; monster; all- choose)
124. The drug of choice for primary uterine inertia is-
125. Drug used in sows for the induction of parturition-
126. The source of Prostaglandins in semen is-
127. The entry of Spermatozoa to ova is by way of enzyme-
128. Endocrine cells of the testis is-
129. Thawing temperature of frozen semen-
130. The gestation length of cow is-

ANSWER BY YOU?