

MHT CET 2020 Biology Memory Based Question Paper PDF

Section: Physics

- A particle moves along a circular path of radius 'r' with uniform speed 'V'. The angle described by the particle in one second is
 - Vr
 - r/V
 - V^2r
 - V/r
- The focal length of the objective used in compound microscope and telescope is respectively
 - short and short
 - large and large
 - large and short
 - short and large
- The two waves are represented by $Y_1 = 10^{-2} \sin[50t + \frac{x}{25} + 0.3]$ m and $Y_2 = 10^{-2} \cos[50t + \frac{x}{25}]$ m where x is in metre and time in second. The phase difference between the two waves is nearly
 - 1.05 rad
 - 1.15 rad
 - 1.22 rad
 - 1.27 rad
- A disc has mass 'M' and radius 'R'. How much tangential force should be applied to the rim of the disc so as to rotate with angular velocity ' ω ' in time t?
 - $\frac{MR^2\omega}{2t}$
 - $\frac{MR^2\omega}{t}$
 - $\frac{MR\omega}{2t}$
 - $\frac{MR\omega}{t}$
- A sphere of mass 'M' is attached to one end of a metal wire having length 'L' and diameter 'D'. It is whirled in a vertical circle of radius R with angular velocity ' ω '. When the sphere is at lowest point of its path, the elongation of the wire is (Y = Young's modulus, g = acceleration due to gravity)
 - $\frac{6ML(R^2\omega^2 + g)}{\pi D^2 Y}$
 - $\frac{2ML(R^2\omega^2 + g)}{\pi D^2 Y}$
 - $\frac{4ML(R\omega^2 + g)}{\pi D^2 Y}$
 - $\frac{ML(R\omega^2 + g)}{2\pi D^2 Y}$
- Find the dimensions of the quantity 'x' in the equation $T = 2\pi \left[\frac{ML^3}{3YX} \right]^{1/2}$ where 'T' is time period, M is mass, L is length and Y is Young's modulus.
 - $[L^3]$
 - $[L^6]$
 - $[L^2]$

4. $[L^4]$
7. Out of the following graphs which graph shows the correct relation for LC parallel resonant circuit?
- (A)
 - (D)
 - (C)
 - (B)
8. An ammeter is obtained by shunting ' n ' Ω galvanometer with ' n ' Ω resistance. The additional shunt required to be connected across it to double the range is
- $n/3$
 - n
 - $n/4$
 - $n/2$
9. A uniform rod of length ' $2L$ ' has constant mass per unit length ' m '. Moment of inertia of the rod about an axis passing through its centre and perpendicular to length is
- $\frac{mL^2}{4}$
 - $\frac{mL^3}{3}$
 - $\frac{2mL^3}{3}$
 - $\frac{mL^2}{12}$
10. Capacity of a parallel plate air condenser is $2\mu F$ and voltage between the plates is changing at the rate of 3 V/s. The displacement current in the capacitor is
- $8\mu A$
 - $2\mu A$
 - $6\mu A$
 - $4\mu A$
11. Earth is assumed to be a sphere of radius ' R ' and uniform density. The variation of acceleration due to gravity (g) according to depth and height (h) is shown correctly by graph:
- (C)
 - (B)
 - (D)
 - (A)
12. In photoelectric emission, the intensity of incident light is reduced then stopping potential
- may increase or decrease
 - remains same
 - increases
 - decreases
13. Two wires of same length and material are used to form a square loop and a circular loop respectively. If same current is passed through both loops then ratio of magnetic moment of square loop to that of circular loop is
- $\pi/2$
 - π
 - $\pi/4$
 - 2π
14. A block of mass ' M ' is pushed momentarily on horizontal surface with initial velocity ' V '. If ' μ ' is coefficient of sliding friction, block will come to rest after time:
- $\frac{\mu g}{V}$
 - $\mu g V$

3. $\frac{V^2}{\mu g}$

4. $\frac{V}{\mu g}$

15. A transistor is used as common emitter amplifier with load resistance $2k\Omega$. Input resistance is 150Ω . Base current changed by $20\mu A$ results in collector current change by 1.5 mA. Voltage gain is:

1. 500
2. 1000
3. 750
4. 1250

16. Two unknown resistances in meter bridge. Null point at 40 cm from left. 30Ω resistance in series with smaller shifts null point by 20 cm to right. Smaller resistance is:

1. 8Ω
2. 24Ω
3. 32Ω
4. 16Ω

17. A satellite in circular orbit has total energy 'E'. Its potential energy is:

1. $E/2$
2. $2E$
3. E
4. $4E$

18. U tube diameters 5mm and 2mm. Surface tension 7×10^{-2} N/m, density 10^3 kg/m³, $g = 10$ m/s². Level difference is:

1. 7.7 mm
2. 6.8 mm
3. 9.5 mm
4. 8.4 mm

19. Intensity of magnetization of magnet moment $4Am^2$, weight 50g, density 5000 kg/m³.

1. 10^5 A/m
2. 3×10^5 A/m
3. 2×10^5 A/m
4. 4×10^5 A/m

20. In hydrogen atom, product of angular momentum and linear momentum is proportional to:

1. n^1
2. n^0
3. n^3
4. n^2

21. Parallelogram diagonals d_1, d_2 . $a^2 + b^2 = ?$

1. $\frac{d_1^2 - d_2^2}{4}$
2. $\frac{d_1^2 - d_2^2}{2}$
3. $\frac{d_1^2 + d_2^2}{2}$
4. $\frac{d_1^2 + d_2^2}{4}$

22. Refractivity of prism material is:

1. μ
2. $(\mu + 1)$
3. $(\mu - 1)$

4. $(1 - \mu)$

23. Poisson's ratio for stretched wire:

1. $\frac{Mr}{\pi R^3 \rho \ell}$

2. $\frac{Mr}{\pi R^2 \rho \ell}$

3. $\frac{Mr^2}{\pi R^3 \rho \ell}$

4. $\frac{2Mr^2}{\pi R^2 \rho \ell}$

24. $C_1 = 4\mu F, C_2 = 1\mu F$ in series, 200V. Ratio of potential across C_2 to C_1 :

1. 8 : 1

2. 16 : 1

3. 2 : 1

4. 4 : 1

25. Balancing length L. If current is decreased, balancing length will:

1. be increased

2. not be changed

3. become half

4. be decreased

26. Ratio of γ for monoatomic to (rigid) diatomic gas:

1. 25/21

2. 35/15

3. 21/25

4. 15/35

27. Ratio of tangential to radial acceleration:

1. $\frac{r\alpha}{V}$

2. $(\frac{r}{V})^2 \alpha$

3. $(\frac{V}{r})^2 \frac{1}{\alpha}$

4. $(\frac{V}{r})^2 \alpha$

28. Wavelength λ has stopping potential V. Wavelength 3λ has potential $V/6$. Threshold wavelength:

1. 5λ

2. 9λ

3. 3λ

4. 6λ

29. Stationary wave $Y = 3 \sin(200\pi t) \cos(0.4x)$. 4th harmonic. Length of string:

1. 10π

2. 4π

3. 6π

4. 8π

30. Resonance tube liquid density higher than water, resonating frequency:

1. may increase or decrease

2. will decrease

3. will not change

4. will increase

31. YDSE in liquid, 8th bright where 5th dark in air. Refractive index:

1. 1.9

2. 1.77
 3. 1.5
 4. 1.33
32. Surface tension 7×10^{-2} N/m. Force 105 dyne. Inner circumference is:
1. 1.5 cm
 2. 2.5 cm
 3. 2 cm
 4. 1 cm
33. Voltmeter range V with 50Ω series. Range 2V with 500Ω series. Resistance:
1. 200Ω
 2. 400Ω
 3. 600Ω
 4. 800Ω
34. $C = \overline{A \cdot B}$. Logic gate is:
1. NOT
 2. AND
 3. OR
 4. NAND
35. Bomb rest explodes 3 parts same mass. Part 1: $-3P\hat{i}$, Part 2: $2P\hat{j}$. Part 3 magnitude:
1. $\sqrt{11}P$
 2. $\sqrt{13}P$
 3. $\sqrt{15}P$
 4. $\sqrt{7}P$
36. Initial P, V. Isothermal expand to 9V, then adiabatic compress to V. Final P ($\gamma = 1.5$):
1. 6 P
 2. 27 P
 3. 3 P
 4. 9 P
37. n waves in 0.5s. Tension doubled. Waves in 0.5s:
1. $n/\sqrt{2}$
 2. n
 3. $\sqrt{2}/n$
 4. $\sqrt{2}n$
38. 4I and 9I superposed. Max and min intensities:
1. 4 I and 9 I
 2. 16 I and 21 I
 3. 2 I and 3 I
 4. 25 I and I
39. Velocity of photon acquired by 4 to ground transition in H atom:
1. $\frac{15hR}{16m}$
 2. $\frac{12hR}{13m}$
 3. $\frac{9hR}{11m}$
 4. $\frac{7hR}{9m}$
40. Distance d, force F. Distance doubled, current 1/3rd. New force:

1. $F/6$

2. $F/3$

3. $F/18$

4. $F/9$

41. Spring length L , constant K . Cut into L_1, L_2 where $L_1 = NL_2$. Constant of L_1 :

1. $\frac{K(N+1)}{N}$

2. $\frac{K(N+1)}{2N}$

3. $\frac{K(N-1)}{N}$

4. $\frac{K(N-1)}{2N}$

42. Pendulum length L , mass M , amplitude A . Extreme potential energy:

1. $\frac{MgA}{2L}$

2. $\frac{2MgA}{L}$

3. $\frac{MgA^2}{L}$

4. $\frac{MgA^2}{2L}$

43. Time t for distance d in vacuum. Time T for $5d$ in medium. Critical angle:

1. $\sin^{-1}(3t/T)$

2. $\sin^{-1}(5t/T)$

3. $\sin^{-1}(t/T)$

4. $\sin^{-1}(2t/T)$

44. Plate gap d , potential V , charge q , mass m . Acceleration:

1. $\frac{md}{Vq}$

2. $\frac{qm}{Vd}$

3. $\frac{qV}{dm}$

4. $\frac{qd}{Vm}$

45. Circular coil area A , field B . Magnetic moment is:

1. $\frac{BA^3}{2\pi\mu_0}$

2. $\frac{2B\sqrt{A^3}}{\mu_0\sqrt{\pi}}$

3. $\frac{2BA}{\mu_0}$

4. $\frac{B\sqrt{A^3}}{4\pi\mu_0}$

46. Ball from height h with V . Loses $3/4$ th energy, returns to same h . V is:

1. $\sqrt{gh}$

2. $\sqrt{6gh}$

3. $\sqrt{3gh}$

4. $\sqrt{2gh}$

47. Amplitude A , total E . Displacement where K.E. is $3E/4$?

1. $A/3$

2. A

3. $A/4$

4. $A/2$

48. In phase modulation, carrier parameter varied is:

1. phaseshift

2. phaseshift and amplitude

3. amplitude
4. amplitude and frequency

49. 4 spheres mass M , radius R at square side L corners. M.I. about any side:

1. $\frac{4}{3}MR^2 + ML^2$
2. $\frac{3}{5}MR^2 + 2ML^2$
3. $\frac{8}{5}MR^2 + 2ML^2$
4. $\frac{6}{5}MR^2 + ML^2$

50. F_1, F_2 resultant P . F_2 reversed, resultant Q . $P^2 + Q^2 = ?$

1. $\frac{F_1^2 + F_2^2}{4}$
2. $\frac{F_1^2 - F_2^2}{2}$
3. $\frac{F_1^2 + F_2^2}{2}$
4. $2(F_1^2 + F_2^2)$

Section: Chemistry

1. Vitamin to avoid haemorrhage?

1. Vitamin E
2. Vitamin C
3. Vitamin P
4. Vitamin K

2. Ziegler-Natta polymer?

1. HDPE
2. LDPE
3. Orlon
4. Dacron

3. Correct decreasing order of tendency to undergo oxidation:

1. $\text{Cr} > \text{Al} > \text{Mg} > \text{Fe}$
2. $\text{Mg} > \text{Al} > \text{Cr} > \text{Fe}$
3. $\text{Al} > \text{Fe} > \text{Cr} > \text{Mg}$
4. $\text{Fe} > \text{Cr} > \text{Al} > \text{Mg}$

4. Metal that does NOT displace zinc?

1. Fe
2. K
3. Na
4. Al

5. One amu is equal to:

1. $6.022 \times 10^{-23} \text{ g}$
2. $8.302 \times 10^{-23} \text{ g}$
3. $1.6605 \times 10^{-24} \text{ g}$
4. $4.661 \times 10^{-25} \text{ g}$

6. Oxidation state of Cl in oxyacid depends on:

1. oxygen atoms per molecule
2. chlorine atoms per molecule
3. oxidation state of oxygen

4. lone pair electrons on oxygen
7. NOT a role of histamine?
 1. Neutralize stomach acid
 2. Contract smooth muscles
 3. Stimulate pepsin
 4. Stimulate HCl
8. Alkaline hydrolysis of 1,1-dichlorocyclohexane?
 1. Cyclohexanol
 2. Cyclohexanone
 3. Benzaldehyde
 4. Cyclohexane carbaldehyde
9. HBr to but-2-ene and but-1-ene forms:
 1. 1-bromobutane and 2-bromobutane
 2. 1-bromobutane only
 3. 2-bromobutane and 1-bromobutane
 4. 2-bromobutane only
10. Starch, $NaHCO_3$, potassium hydrogen tartarate?
 1. Baking soda
 2. Caustic Soda
 3. Washing Soda
 4. Baking Powder
11. Nitration of aniline in strongly acidic medium:
 1. o, m and p
 2. p and o
 3. m and p
 4. o and m
12. Acetic acid molar mass in benzene is greater due to:
 1. ionization
 2. association
 3. hydrolysis
 4. dissociation
13. Primary amine + chloroform + KOH:
 1. Alkene
 2. Alkyl cyanide
 3. Alkyl isocyanide
 4. Amide
14. Same effective magnetic moment pair?
 1. Zn^{2+} and Cr^{3+}
 2. Ni^{2+} and Ti^{3+}
 3. Cr^{3+} and Co^{2+}
 4. Sc^{3+} and Ti^{3+}
15. Process that does NOT lead to coagulation?
 1. Heating egg
 2. Electrolyte addition

3. Electrophoresis
 4. Adding water to gold sol
16. Polymer used for wrapping food?
1. Dacron
 2. Nylon-6
 3. Lexan
 4. Saran
17. Named reaction (Phenol to Salicylic Acid):
1. Kolbe's reaction
 2. Sandmeyer's
 3. Reimer-Tiemann
 4. Stephen reaction
18. Spontaneity at all temperatures:
1. $\Delta H = +, \Delta S = -, \Delta G = +$
 2. $\Delta H = +, \Delta S = +, \Delta G = -$
 3. $\Delta H = -, \Delta S = -, \Delta G = +$
 4. $\Delta H = -, \Delta S = +, \Delta G = -$
19. Roasting zinc blende at 1200 K:
1. Zinc Sulphate
 2. Zinc Oxide
 3. Zinc Spelter
 4. Zinc Carbonate
20. Precipitate quantity with 1 mole complex and excess $AgNO_3$:
1. Two moles $AgCl$
 2. 2 $AgCl$ and 1 $AgBr$
 3. One mole $AgBr$
 4. Two moles $AgBr$
21. NOT a heteroleptic complex?
1. $[Pt(NH_3)_4Br_2]Br_2$
 2. $[Co(NH_3)_6]Cl_3$
 3. $[Co(en)_2Cl_2]^+$
 4. $[Co(en)_2Cl_2]Cl$
22. NOT correct for van't Hoff factor?
1. $i = n_{obs}/n_{theo}$
 2. $i = M_{theo}/M_{obs}$
 3. $i = M_{obs}/M_{theo}$
 4. $i = \pi_{obs}/\pi_{theo}$
23. Constituents of Natalite?
1. Dimethyl ether, methanol
 2. Dimethyl ether, ethanol
 3. Diethyl ether, ethanol
 4. Diethyl ether, methanol
24. Antibiotic with As=As linkage?
1. Sulphapyridine

2. Prontosil
 3. Salvarsan
 4. Sulphanilamide
25. Product X in reaction (Phenol + oxidant)?
1. Benzaldehyde
 2. Salicylic acid
 3. Benzoquinone
 4. Benzoic acid
26. Which is a complex lipid?
1. Testosterone
 2. Lecithin
 3. Cholesterol
 4. α - phellandrene
27. Electronic configuration $[Xe]4f^0$ in +4 state?
1. Neodymium
 2. Praseodymium
 3. Cerium
 4. Dysprosium
28. Ozonolysis of tetramethyl ethylene followed by reduction?
1. Butanal
 2. Propanal
 3. Propanone
 4. Butanone
29. Compound giving 2,5-dimethyl hexane with sodium metal?
1. tert-butyl bromide
 2. sec-butyl bromide
 3. n-butyl bromide
 4. isobutyl bromide
30. P oxidation number +3 in?
1. $H_4P_2O_7$
 2. H_3PO_3
 3. H_3PO_2
 4. H_3PO_4
31. Reaction explaining acidic property of carboxylic acid?
1. $2RCOOH + 2Na \rightarrow 2RCOONa + H_2$
 2. Dehydration
 3. Esterification
 4. $SOCl_2$ reaction
32. Reaction intermediate in given two-step reaction?
1. NO_2Cl
 2. Cl
 3. NO_2
 4. Cl_2
33. Torsion angle in staggered ethane?

1. 45°
 2. 180°
 3. 60°
 4. 0°
34. Thermodynamics deals with?
1. Path
 2. Microscopic
 3. Rates
 4. Macroscopic
35. Molecule with 25% 'S' character?
1. Ethylene
 2. BF_3
 3. Acetylene
 4. Methane
36. Mass of gold unit cell (fcc, atomic mass 197)?
1. $98 \times 10^{-23} \text{ g}$
 2. $32 \times 10^{-23} \text{ g}$
 3. $65 \times 10^{-23} \text{ g}$
 4. $130 \times 10^{-23} \text{ g}$
37. Radius of sodium (bcc, $a = 4.29 \times 10^{-8} \text{ cm}$)?
1. $2.30 \times 10^{-8} \text{ cm}$
 2. $6.19 \times 10^{-9} \text{ cm}$
 3. $1.85 \times 10^{-8} \text{ cm}$
 4. $1.61 \times 10^{-8} \text{ cm}$
38. Lone pairs on each O in Cl oxyacids?
1. 0
 2. 3
 3. 1
 4. 2
39. Cl oxidation state in perchloric acid?
1. -5
 2. +7
 3. +5
 4. +3
40. Bond order of Be_2 molecule?
1. Two
 2. Three
 3. Zero
 4. One
41. Which is a polynuclear hydride?
1. B_2H_6
 2. LiH
 3. NH_3
 4. NaH

42. Rate ratio r_2/r_1 if A doubled and B halved?

1. $a - b$
2. $\frac{1}{2^{(a+b)}}$
3. $a + b$
4. $2^{(a-b)}$

43. Only one monochloroderivative given by?

1. Isopentane
2. Neopentane
3. n-pentane
4. 2,3-Dimethylpentane

44. Does NOT exhibit resonance?

1. Cyclohexane
2. Phenol
3. Aniline
4. Nitro ethane

45. Max electrical work from Daniell cell (1.10V)?

1. 212.3 kJ
2. 175.4 kJ
3. 106.15 kJ
4. 57.07 kJ

46. Mass of water from 1 mole methane and 2 mole dioxygen?

1. 27 g
2. 18 g
3. 36 g
4. 54 g

47. IUPAC name of $H_2N - CH_2 - CH = CH_2$?

1. 1-propenamine
2. 3-Aminopropene
3. Prop-1-en-3-amine
4. Prop-2-en-1-amine

48. Difficult to liquefy?

1. Ammonia
2. CO_2
3. Oxygen
4. Chlorine

49. Gold fcc radius ($a = 396$ pm)?

1. 198 pm
2. 714 pm
3. 140 pm
4. 162 pm

50. Same van't Hoff factor as $K_4[Fe(CN)_6]$?

1. Na_2SO_4
2. $MgSO_4$
3. $Al_2(SO_4)_3$
4. $Al(NO_3)_3$

Section: Biology

1. Match chromosome types:
 1. a-iii, b-i, c-iv, d-ii
 2. a-iv, b-ii, c-iii, d-i
 3. a-ii, b-iii, c-iv, d-i
 4. a-iii, b-ii, c-i, d-iv
2. Correct match for excretion:
 1. Ornithine cycle-uric acid
 2. Camel-uricotelic
 3. Low threshold-glucose
 4. High threshold-amino acids
3. Rice plant grows tall, thin and pale?
 1. Rust
 2. Hill bunt
 3. Bakane
 4. Black-rot
4. Best method to eliminate harmful recessive genes?
 1. hybridization
 2. outcrossing
 3. in-breeding
 4. cross-breeding
5. Gemmule outer layer secreted by?
 1. choanocytes
 2. interstitial
 3. amoebocytes
 4. archaeocytes
6. Explant for disease-free plant?
 1. floral buds
 2. shoot apical meristem
 3. medullary rays
 4. pith parenchyma
7. Epidermal cell prolongations region?
 1. Cell division
 2. Absorption
 3. Maturation
 4. Elongation
8. Graafian follicle cells secrete?
 1. hCG
 2. relaxin
 3. testosterone
 4. estrogen
9. Maximizes oxygen transfer in fishes?
 1. permeability

2. thin membranes
 3. number of gills
 4. counter-current flow
10. 70S ribosomes occur in?
1. Bacteria, ER, mesosome
 2. Bacteria, mitochondria, chloroplasts
 3. Nucleus, mesosome, mitochondria
 4. Chloroplasts, Golgi, mitochondria
11. Liquor from fruit juices?
1. Beer
 2. Whisky
 3. Wine
 4. Rum
12. Sub order Anthroidea includes:
1. ii, iii, iv
 2. ii and iii
 3. iii, iv, v
 4. i and ii
13. Alcohol abuse cirrhosis target?
1. liver
 2. lung
 3. stomach
 4. heart
14. INCORRECT statement:
1. DNase for emphysema
 2. Transgenic for PKU
 3. Transgenic for RA
 4. Vaccine antigens
15. Iron containing red protein?
1. ferredoxin
 2. cytochrome - f
 3. cytochrome b_6
 4. plastocyanin
16. Lysosomes bodies and origin?
1. single, Golgi
 2. double, Golgi
 3. double, ER
 4. single, nucleus
17. First stable compound of C4?
1. PGA
 2. 1, 3 DPGA
 3. oxalosuccinic
 4. oxaloacetic
18. Glossopharyngeal nerve impairment NOT affect?

1. rotation of eyeball
 2. swallowing
 3. saliva
 4. taste
19. PCR heating breaks which bonds?
1. hydrogen
 2. phosphodiester
 3. glycosidic
 4. sugar-phosphate
20. Angiosperms female gametes for double fertilization?
1. 6
 2. 2
 3. 1
 4. 4
21. Buildings deterioration pollutant?
1. SO_2
 2. CFC
 3. CO_2
 4. CO
22. Match diseases and causative agents:
1. a-iii, b-iv, c-ii, d-i
 2. a-iv, b-ii, c-i, d-iii
 3. a-ii, b-iii, c-iv, d-i
 4. a-iv, b-iii, c-ii, d-i
23. NOT true about cohesion-tension?
1. pull leaf to root
 2. living cells active role
 3. lignified wall attraction
 4. water mutual attraction
24. Water soluble vitamins?
1. A and B
 2. B and C
 3. E and K
 4. C and D
25. Tachycardia heart rate beats over?
1. 60
 2. 95
 3. 100
 4. 75
26. Corona radiata cells?
1. granulosa
 2. cortical
 3. theca externa
 4. theca interna

27. Richmond - Lang effect related with?
1. cell division
 2. apical dominance
 3. abscission layer
 4. delaying senescence
28. Salvia and Cestrum pollination?
1. insects
 2. wind
 3. bats
 4. birds
29. Correct urine path:
1. major → minor → collecting → pelvis
 2. pelvis → minor → major → collecting
 3. collecting → major → minor → pelvis
 4. collecting → minor → major → pelvis
30. Decomposition steps sequence:
1. Frag, leach, cat, hum, min
 2. Frag, cat, leach, hum, min
 3. Frag, leach, hum, cat, min
 4. Frag, cat, hum, leach, min
31. Chloroplast labels:
1. x-DNA, y-inner, z-lamellae
 2. x-lamellae, y-inner, z-DNA
 3. x-DNA, y-lamellae, z-inner
 4. x-inner, y-lamellae, z-DNA
32. Phospho-glycero mutase glycolytic reaction?
1. ATP-I
 2. ATP-II
 3. Dehydration
 4. Isomerization
33. Photophosphorylation pathways suggested by?
1. Robert Hill
 2. Dr. Calvin
 3. Dr. Arnon
 4. C. Van Neil
34. Aspergillosis poultry disease type?
1. fungal
 2. bacterial
 3. protozoan
 4. viral
35. A and B in vaccine statement?
1. A-adjuvant, B-toxoid
 2. A-diluent, B-adjuvant
 3. A-toxoid, B-adjuvant

4. A-toxoid, B-diluent
36. ANF functions EXCEPT?
 1. vasodilation
 2. renin-angiotensin inhibition
 3. vasoconstriction
 4. sodium excretion
37. ATP formed by substrate level phosphorylation in glycolysis?
 1. 8 ATP
 2. 4 ATP
 3. 36 ATP
 4. 2 ATP
38. Nuclear size does NOT depend on?
 1. volume
 2. shape
 3. proteins amount
 4. DNA amount
39. INCORRECT statement:
 1. Cardiac autonomic SA
 2. Gel electrodes ECG
 3. QRS spreading impulse
 4. Malnutrition heart muscle
40. DNA ligase genetic engineering use?
 1. PCR
 2. fragmentation
 3. joining gene into vector
 4. reverse transcription
41. Third kingdom Protista suggested by?
 1. Whittaker
 2. Linnaeus
 3. Haeckel
 4. Woese
42. Mendel crosses?
 1. Mono and Di
 2. Mono, Di, Tri
 3. Mono only
 4. Di only
43. Spinal nerves in man statement?
 1. foramen magnum
 2. neural canal
 3. 21 pairs
 4. sensory, motor, mixed
44. Applicable for t-RNA?
 1. Folded
 2. Self-replicating

3. Largest
 4. Two strands
45. Goblet cell secretion?
1. oil
 2. mucous
 3. enzymes
 4. hormones
46. Population density increase depends on?
1. mortality
 2. natality
 3. low emigration
 4. high emigration
47. Why hybrid seeds every year?
1. apomictic
 2. dicot hybrid
 3. monocot hybrid
 4. polyembryonic
48. Pure water potential?
1. zero
 2. more than one
 3. one
 4. less than one
49. Polypeptide formation message?
1. r-RNA
 2. r-DNA
 3. m-RNA
 4. t-RNA
50. Protein RQ?
1. infinity
 2. more than one
 3. one
 4. less than one
51. Testis layers inner to outer?
1. vag, alb, vasc
 2. vasc, vag, alb
 3. vag, vasc, alb
 4. alb, vasc, vag
52. Insoluble carbohydrate?
1. Cellulose
 2. Glucose
 3. Lactose
 4. Fructose
53. Double stranded DNA from sample and probe?
1. electrophoresis

2. digestion
 3. hybridization
 4. amplification
54. F2 generation 315:108:101:32 ratio cross?
1. Test
 2. Trihybrid
 3. Dihybrid
 4. Monohybrid
55. Bacterial herbicide?
1. Alternaria
 2. Xanthomonas
 3. Fusarium
 4. Bacillus
56. Co-dominance description?
1. one recessive
 2. both dominant
 3. one dominant
 4. both recessive
57. First decarboxylation in Krebs?
1. Isocitrate
 2. Succinate
 3. Oxalosuccinate
 4. α -ketoglutarate
58. Dwarfism in childhood due to?
1. somatotropin hyposecretion
 2. thyrotropin hyposecretion
 3. thymosin hypersecretion
 4. secretin hypersecretion
59. Rhizines attachment in lichen?
1. Crustose
 2. Foliose
 3. Shrubby
 4. Fruticose
60. NOT tool in r-DNA tech?
1. Endonuclease
 2. Nucleoid
 3. Vector
 4. Transcription
61. Largest cell in oogenesis?
1. secondary oocyte
 2. 1st polar body
 3. primordial cell
 4. oogonium
62. Sum total of populations?

1. community
 2. biome
 3. biomass
 4. ecosystem
63. Max corpuscles total blood count?
1. erythrocytes
 2. eosinophils
 3. lymphocytes
 4. thrombocytes
64. INCORRECT statement:
1. Haemophilia clotting factor VIII
 2. Normal clotting X chromosome
 3. Haemophilia RBCs sickle
 4. Carrier female haemophilia
65. Photorespiration RUBP oxidation when?
1. High T, High I, Low CO_2
 2. Low T, Low I, Low CO_2
 3. Low T, High I, Low CO_2
 4. High T, High I, High CO_2
66. Somatic reflexes effectors location?
1. skin
 2. glands
 3. smooth
 4. skeletal
67. Fertilization specific due to?
1. gametogenesis
 2. same size
 3. reaction
 4. large ovum small sperm
68. Coenocytic hyphae characteristic?
1. Ascomycetes
 2. Phycomycetes
 3. Deuteromycetes
 4. Basidiomycetes
69. Major reservoir of carbon?
1. Ocean
 2. Detritus
 3. Plants
 4. Atmosphere
70. Oldest fossil record ape and man?
1. Ramapithecus
 2. Propliopithecus
 3. Kenyapithecus
 4. Dryopithecus

71. NOT nutrient in plasma?

1. Glycine
2. Creatinine
3. Fatty acid
4. Glucose

72. Both alleles expressed in?

1. diabetes
2. AB blood group
3. color blindness
4. haemophilia

73. Endonuclease name refers to?

1. place
2. bacterium
3. author
4. naming procedure

74. Medulla oblongata injury death cause?

1. reflex stop
2. vital activities stop
3. CSF stop
4. plexuses damaged

75. Rice variety with 5x more?

1. tryptophan
2. vitamin B_{12}
3. iron
4. protein

76. 64 offsprings F2 Skin color mulattoes?

1. One
2. Six
3. Twenty
4. Fifteen

77. Sex chromosomes male bird?

1. XY
2. ZW
3. XX
4. ZZ

78. Site for glycolysis?

1. Golgi
2. mitochondria
3. chloroplast
4. cytoplasm

79. Anemophily flowers characteristic?

1. ornithophily
2. entomophily
3. anemophily

4. chiropterophily
80. Example of predation?
 1. Remora-shark
 2. Whale-barnacle
 3. Orchid-tree
 4. Tiger-deer
81. Pollen mother cell per microsporangium?
 1. 128
 2. 64
 3. 32
 4. 16
82. NOT during expiration?
 1. dome diaphragm
 2. compression
 3. thoracic volume increases
 4. ribs inwards
83. Correct statement:
 1. Fossils upper layers
 2. Extinct habit
 3. Fossil remains on land
 4. Moulds common
84. Malnourished child stunted growth Kwashiorkor?
 1. Jaundice
 2. Kwashiorkor
 3. Marasmus
 4. Constipation
85. Menstrual cycle found in?
 1. monkeys, apes, humans
 2. monkeys, apes
 3. apes, humans
 4. only humans
86. Reptiles dominant period?
 1. Triassic
 2. Jurassic
 3. Cretaceous
 4. Tertiary
87. Tissue diagram P and Q?
 1. Medulla, Macrophage
 2. Cytoplasm, Fibroblast
 3. Matrix, Mast
 4. Matrix, Adipocyte
88. LSD obtained from?
 1. Cannabis
 2. Poppy

3. Datura
 4. Ergot fungus
89. Monarch butterfly bad taste?
1. pupating
 2. adult
 3. egg laying
 4. larval
90. Correct for DNA?
1. $A+T=G+C$
 2. $A-T=G-C$
 3. $A+C=G+T$
 4. $A+G=T+C$
91. NOT significance of vegetative propagation?
1. Variations
 2. Yield grafting
 3. Clones
 4. Easy/cheap
92. Basophil?
1. heparin
 2. fibrin
 3. globulin
 4. anti-histamine
93. Membrane surrounding axon?
1. neurilemma
 2. sarcolemma
 3. chromonema
 4. nucleolonema
94. Factors R1, R2, S during protein synthesis?
1. complex formation
 2. release chain
 3. transcription initiation
 4. linking codon
95. 44 base pairs DNA segment length?
1. $149.2\text{ \AA}$
 2. $149.3\text{ \AA}$
 3. $149.4\text{ \AA}$
 4. $149.6\text{ \AA}$
96. Boll worms attack?
1. maize
 2. rice
 3. okra
 4. cotton
97. NOT related to pollen tube entry?
1. Chalazogamy

2. Siphonogamy
3. Mesogamy
4. Porogamy

98. Match columns a-d:

1. a-iii, b-i, c-ii, d-iv
2. a-iii, b-i, c-iv, d-ii
3. a-iii, b-ii, c-iv, d-i
4. a-i, b-ii, c-iii, d-iv

99. Liver location?

1. left side stomach
2. right side spleen
3. left side kidney
4. right side diaphragm

100. Pregnancy hormone?

1. FSH
2. ACTH
3. Estrogen
4. Progesterone