09-04-2019

Code - B

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Limited)

Regd. Office : Aakash Tower, 8, Pusa Road, New Delhi-110005; Ph.: 011-47623456

MM : 720

Test Series for NEET - 2019
Test – 6

Time : 3 Hrs

ANSWERS

1. (2)	37. (1)	73. (2)	109. (2)	145. (4)
2. (3)	38. (2)	74. (1)	110. (1)	146. (1)
3. (3)	39. (1)	75. (3)	111. (3)	147. (4)
4. (4)	40. (4)	76. (2)	112. (1)	148. (3)
5. (3)	41. (2)	77. (1)	113. (3)	149. (2)
6. (4)	42. (2)	78. (4)	114. (3)	150. (2)
7. (3)	43. (3)	79. (2)	115. (2)	151. (3)
8. (4)	44. (4)	80. (3)	116. (3)	152. (2)
9. (2)	45. (1)	81. (1)	117. (2)	153. (3)
10. (1)	46. (3)	82. (1)	118. (3)	154. (3)
11. (3)	47. (4)	83. (2)	119. (3)	155. (2)
12. (1)	48. (3)	84. (1)	120. (3)	156. (4)
13. (4)	49. (3)	85. (3)	121. (3)	157. (4)
14. (3)	50. (2)	86. (2)	122. (3)	158. (2)
15. (4)	51. (4)	87. (1)	123. (3)	159. (3)
16. (4)	52. (3)	88. (4)	124. (2)	160. (1)
17. (4)	53. (1)	89. (2)	125. (3)	161. (3)
18. (1)	54. (2)	90. (2)	126. (4)	162. (1)
19. (4)	55. (4)	91. (2)	127. (4)	163. (2)
20. (3)	56. (2)	92. (1)	128. (4)	164. (1)
21. (4)	57. (4)	93. (3)	129. (2)	165. (2)
22. (4)	58. (2)	94. (1)	130. (2)	166. (2)
23. (2)	59. (4)	95. (1)	131. (2)	167. (1)
24. (2)	60. (4)	96. (4)	132. (4)	168. (1)
25. (2)	61. (3)	97. (1)	133. (1)	169. (2)
26. (4)	62. (1)	98. (4)	134. (3)	170. (3)
27. (4)	63. (4)	99. (1)	135. (2)	171. (3)
28. (4)	64. (3)	100. (2)	136. (2)	172. (4)
29. (1)	65. (2)	101. (1)	137. (2)	173. (3)
30. (1)	66. (3)	102. (4)	138. (1)	174. (3)
31. (4)	67. (2)	103. (2)	139. (3)	175. (1)
32. (1)	68. (2)	104. (3)	140. (4)	176. (3)
33. (4)	69. (2)	105. (4)	141. (1)	177. (2)
34. (2)	70. (4)	106. (1)	142. (2)	178. (3)
35. (2)	71. (1)	107. (4)	143. (2)	179. (3)
36. (2)	72. (1)	108. (1)	144. (3)	180. (2)

09-04-2019

Code - B

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Limited)

Regd. Office : Aakash Tower, 8, Pusa Road, New Delhi-110005; Ph.: 011-47623456

MM : 720

Test Series for NEET - 2019
Test – 6

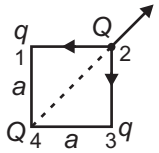
Time : 3 Hrs.

Hints and Solutions

PHYSICS

1. Answer (2)

For net force to be zero



$\vec{F}_{24} + \vec{F}_{21} + \vec{F}_{23} = 0$

$|\vec{F}_{21}| = |\vec{F}_{23}|$

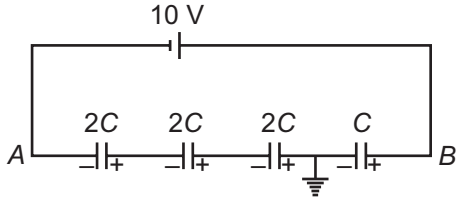
$2F_{21}\cos 45° = F_{24}$

$$2 \times K\frac{qQ}{a^2} \times \frac{1}{\sqrt{2}} + K\frac{Qq}{\left(a\sqrt{2}\right)^2} = 0$$

$Q = -2\sqrt{2}\,q$

2. Answer (3)

Effective capacitance = $\frac{2C}{5}$



Charge on system = $\frac{20C}{5}$ = 4C

According to K.V.L.

$V_A + \frac{3q}{2C} = 0$

$V_A = -\frac{3 \times q}{2C} \times 4C = -6\text{ V}$

and $V_B = \frac{q}{C} = 0 \Rightarrow V_B = 4$

3. Answer (3)

No equilibrium under the effect of only electrostatic force is stable.

4. Answer (4)

In electrostatic state potential at each points of metallic conductor is same.

5. Answer (3)

After distribution potential of both the sphere will be same.

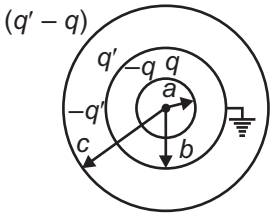
$E = \frac{1}{4\pi\varepsilon_0}\frac{q}{r^2} = \frac{V}{r}$

$E \propto \frac{1}{r}$

$\boxed{\frac{E_1}{E_2} = \frac{R_2}{R_1}}$

6. Answer (4)

Potential of sphere *B* is zero.



$K\left[\frac{q}{b} - \frac{q}{b} + \frac{q'}{b} - \frac{q'}{c} + \frac{q'-q}{c}\right] = 0$

$q' = +\frac{b}{c}q$

Charge on outer surface $(q'-q) = -q\left(1-\frac{b}{c}\right)$.

7. Answer (3)

Total energy = K.E + P.E

$$= \frac{1}{4\pi\varepsilon_0}\frac{q^2}{2r} + \left[-\frac{1}{4\pi\varepsilon_0}\frac{q^2}{r}\right]$$

$$\boxed{E = -\frac{1}{4\pi\varepsilon_0}\frac{q^2}{2r}}$$

8. Answer (4)

$E_{net} = E_1 + E_2 + ... + E_{10}$

$$= \frac{k(1)}{1^2} + \frac{k(8)}{2^2} + \frac{k(27)}{(3)^2} + \ldots + \frac{k(1000)}{(10)^2} = 55 \text{ k}$$

9. Answer (2)

$$a_y = \frac{qE}{m} = \frac{eE}{m}$$

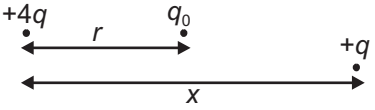
$$\frac{d}{2} = 0 + \frac{1}{2}a_y t^2$$

$$t = \sqrt{\frac{d}{a_y}}$$

So, $l = v_0 t$

$$v_0 = \frac{l_0}{t} = \frac{l}{\sqrt{\frac{d}{a_y}}} = \frac{l\sqrt{a_y}}{\sqrt{d}} = l\sqrt{\frac{eE}{md}}$$

10. Answer (1)



$$r = \frac{2x}{3}$$

q and $4q$ are also in equilibrium so force on $4q$ will also be zero

$$\frac{k \times (4q)(+q_0)}{r^2} + \frac{k(4q)q}{x^2} = 0$$

$$\frac{q_0}{r^2} + \frac{q}{x^2} = 0$$

$$q_0 = -q\frac{r^2}{x^2} = \frac{-q \times 4x^2}{9x^2}$$

$\boxed{q_0 = \frac{-4}{9}q}$ negative in nature

11. Answer (3)

$Q_1 = 4\pi R^2\sigma,\ Q_2 = 16\pi R^2\sigma$

$Q_1 + Q_2 = 20\pi R^2\sigma$

After contact, potential is same.

$$\frac{Q_1'}{4\pi\varepsilon_0 R} = \frac{Q_2'}{4\pi\varepsilon_0(2R)}$$

$$\Rightarrow\ Q_2' = 2Q_1'$$

$$\Rightarrow\ Q_2' = 2(20\pi R^2\sigma - Q_2')$$

$$\Rightarrow\ 3Q_2' = 40\pi R^2\sigma$$

$$\Rightarrow\ Q_2' = \frac{40\pi R^2\sigma}{3}$$

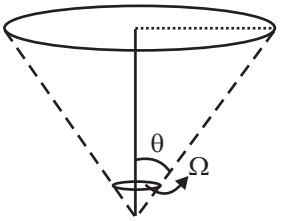
$$Q_2' = \frac{40\pi R^2\sigma}{3 \times 4\pi \times 4R^2} = \frac{5}{6}\sigma$$

12. Answer (1)

$$\vec{E} = -\left[\frac{\partial V}{\partial x}\hat{i} + \frac{\partial V}{\partial y}\hat{j} + \frac{\partial V}{\partial z}\hat{k}\right]$$

$$E = -7\hat{i} - 9\hat{j} - 8\hat{k}$$

13. Answer (4)



Solid angle $\Omega = 2\pi(1 - \cos\theta)$

$\because\ \theta = 45°$

$$\Omega = 2\pi\left[1 - \frac{1}{\sqrt{2}}\right]$$

$$\Omega = \sqrt{2}\pi\left(\sqrt{2} - 1\right)$$

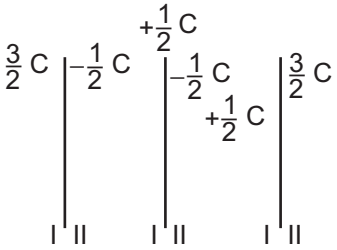
$$\frac{q}{\varepsilon_0} \rightarrow 4\pi$$

$$\phi = \frac{q}{4\pi\varepsilon_0}\sqrt{2}\pi\left(\sqrt{2} - 1\right)$$

$$\phi = \frac{\sqrt{2}\left(\sqrt{2} - 1\right)q}{4\varepsilon_0} = 0.15\ q/\varepsilon_0$$

$$= \frac{0.15}{\varepsilon_0}q$$

14. Answer (3)



15. Answer (4)

Induced electric field will be closed loop and non-conservative.

16. Answer (4)
Capacitance of capacitor depends on, shape and size of plates and medium between the plates.

17. Answer (4)

18. Answer (1)

$$F_e = mg \Rightarrow \frac{kq^2}{1^2} = mg \Rightarrow q = \sqrt{\frac{mg}{k}}$$

19. Answer (4)

$mg = T$ ... (i)

$$T = \left[\frac{\sigma}{2\varepsilon_0}\right]\cdot(\sigma A) \quad \text{... (ii)}$$

$$\Rightarrow \quad m = \frac{\sigma^2 A}{2\varepsilon_0 g}$$

20. Answer (3)

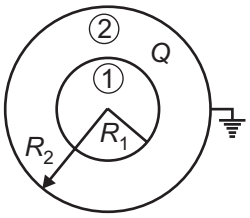
Net electric field inside metal is zero.

$$\vec{E}_{\text{Sphere}} + \vec{E}_q = 0$$

$$\vec{E}_{\text{Sphere}} = -\vec{E}_q = -\frac{1}{4\pi\varepsilon_0}\frac{q}{d^2}$$

$$|\vec{E}_{\text{Sphere}}| = \frac{1}{4\pi\varepsilon_0}\frac{q}{d^2}$$

21. Answer (4)



Initial potential difference ΔV = 15 – 10 = 5 V

When outer shell is earthed, potential difference remains unchanged.

$v_i' - 0 = 5 \Rightarrow v_i' = 5$ V

22. Answer (4)

Let capacitance without dielectric be C_0.

From conservation of charge.

$C_0V_0 = (C_0 + C)\,V$, where V is final pd.

or, $C_0V_0 = (C_0 + \varepsilon_r C_0)V$

or, $V_0 = V + \alpha V^2$

or, $2V^2 + V - 136 = 0$

or $\quad V = \dfrac{-1 \pm \sqrt{1 + 4 \times 136 \times 2}}{4} = \dfrac{32}{4} = 8$ volt

23. Answer (2)

Let potential will be minimum at distance x from 1 μC.

$$V = \frac{1}{4\pi\varepsilon_0}\left[\frac{1}{x} + \frac{9}{(8-x)}\right]$$

for V to be minimum.

$$\frac{dV}{dx} = 0$$

$$\frac{dV}{dx} = k[-x^{-2} + 9(8-x)^{-2}] = 0$$

$$\frac{1}{x} = \frac{3}{(8-x)}$$

$4x = 8$

$x = 2$ cm

24. Answer (2)
Total flux linked depends only on charge enclosed.

25. Answer (2)
In series $C_{\text{eff}} = C/3$.
Effective potential = $V + V + V = 3V$

26. Answer (4)

Effective capacitance of circuit = $\dfrac{5C}{2}$

$$\frac{5C}{2} \times 6 = 1.5$$

$$C = \frac{3}{30} = 0.1\,\mu\text{F}$$

27. Answer (4)
Equipotential surfaces are closer in regions of large electic fields. They are not always equally spaced.

28. Answer (4)

29. Answer (1)

30. Answer (1)

If $|\vec{E}_1| = |\vec{E}_2|$, then $r_1 = r_2$ and $V_1 = V_2$.

31. Answer (4)
Effective capacitance of circuit - 4 μF
Charge stored in system q = 4 × 2000 = 8000 μC

$$V_A - \frac{q}{C} = V_B$$

$$3000 - \frac{8000}{5} = V_B$$

V_B = 1400 V

32. Answer (1)

33. Answer (4)

$P_1 = qa$

$P_2 = 3qa$

$P = \sqrt{(qa)^2 + (3pa)^2 + 2qa.3qa\cos 60^\circ}$

$= qa\sqrt{13}$

34. Answer (2)

Gauss's law is applicable for any closed surface, but useful for symmetric closed surface.

35. Answer (2)

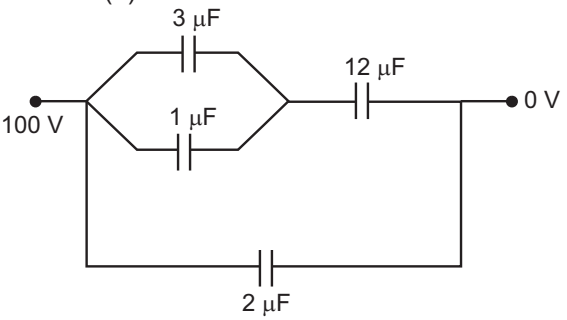
$dE = \frac{1}{4\pi\varepsilon_0}\frac{\lambda dx}{x^2}$

$E = \frac{\lambda}{4\pi\varepsilon_0}\int_a^\infty x^{-2}dx$

$E = -\frac{\lambda}{4\pi\varepsilon_0}\left[\frac{1}{x}\right]_a^\infty$

$\vec{E} = \frac{\lambda}{4\pi\varepsilon_0 a}(-\hat{i})$

36. Answer (2)



Effective capacitance $C = 5\ \mu F$

Charge on system $q = CV = 500\ \mu C$

Charge on 1 $\mu F = 75\ \mu C$

37. Answer (1)

38. Answer (2)

[$W = PE\ (\cos\theta_1 - \cos\theta_2) = 0$]

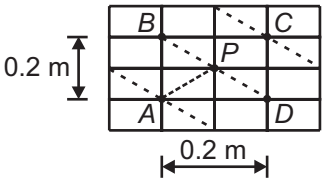
39. Answer (1)

$E_{in} = \frac{1}{4\pi\varepsilon_0}\frac{qr}{R^3}$

$E_{in} \propto r$

40. Answer (4)

Potential difference between equipotential surface = 5 V

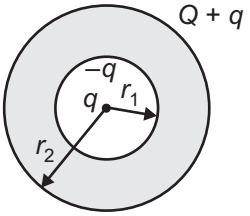


Distance between equipotential surfaces = $0.1\sqrt{2}$

$|\vec{E}| = \frac{dV}{dr} = \frac{5}{0.1\sqrt{2}} = 25\sqrt{2}$ V/m

41. Answer (2)

By induction charge on inner surface is $(-q)$



$\sigma_{in} = -\frac{q}{4\pi r_1^2}$

$\sigma_{out} = -\frac{Q+q}{4\pi r_2^2}$

42. Answer (2)

Number of capacitors required to drop 1000 V potential in series $n = \frac{1000}{250} = 4$.

Effective capacitance of 1 branch in series.

$C' = \frac{8}{4} = 2\ \mu F$

Number of branch required for 8 μF.

$m = 4$

Total number of capacitors

$N = m \times n = 16$

43. Answer (3)

Because battery is disconnected so charge will remain same. So according to $E = \frac{\sigma}{\varepsilon_0} = \frac{q}{\varepsilon_0 A}$ electric field is independent of distance.

44. Answer (4)

Total charge on 3μF before connecting = 300 μC

Charge on 3 μF after distribution = 60 μC

So amount of charge flow = 240 μC

45. Answer (1)

Before touching

$F_1 = \frac{1}{4\pi\varepsilon_0}\frac{Q_1Q_2}{d^2}$

After touching charge will divide equally.

$Q_1' = Q_1' = \frac{Q_1 + Q_2}{2} \simeq \frac{Q_2}{2}$

$F_2 = \frac{1}{4\pi\varepsilon_0}\frac{Q_2^2}{4d^2}$

$\frac{F_1}{F_2} = \frac{\frac{1}{4\pi\varepsilon_0}\frac{Q_1Q_2}{d^2}}{\frac{1}{4\pi\varepsilon_0}\frac{Q_2^2}{4d^2}} = \frac{4Q_1}{Q_2}$

CHEMISTRY

46. Answer (3)

In metal excess (F-centre) defect, electron is trapped in void as negative ions may be missing.

47. Answer (4)

The spontaneous alignment of magnetic moments of domains in same direction, causes ferromagnetism.

48. Answer (3)

$\frac{r^+}{r^-} = \frac{83}{194} = 0.427$, So A^+occupies octahedral void.

49. Answer (3)

It has a high enthalpy of adsorption.

50. Answer (2)

$$4HCl(g) + O_2(g) \xrightarrow[773\ K]{CuCl_2} 2H_2O(l) + 2Cl_2(g)$$

51. Answer (4)

Coagulation is aggregation and settling down of colloidal particles.

52. Answer (3)

$FeCl_3$ when added to NaOH solution a negative charged sol is obtained by adsorption of OH^- ions.

53. Answer (1)

$\Delta T_f(X) = \Delta T_f(Y)$

$\Rightarrow \quad \frac{10 \times 1000}{M \times 90} = \frac{20 \times 1000}{80 \times 80}$

$\Rightarrow$ M = 35.5

54. Answer (2)

$a = 2 (r^+ + r^-) = 2 (280) = 560$ pm

$$P = \frac{4 \times 56}{6.02 \times 10^{23} \times (560 \times 10^{-10})^3}$$

= 2.11 g/ml

55. Answer (4)

Vapour pressure

$\propto$ temperature

$\propto \frac{1}{n_{solute}}$

56. Answer (2)

$\Delta T_b = K_b\ m$

= 0.52 × 0.3

= 0.156 K

57. Answer (4)

$$m = \frac{\frac{19.6}{98} \times 1000}{(100 - 19.6)} = 2.48 \approx 2.5\ m$$

58. Answer (2)

$A_2B_3 \longrightarrow 2A^{3+} + 3B^{2-}$

(at eq.) $(1 - \alpha)$ 2α 3α

$i = 1 + 4\alpha$

59. Answer (4)

$\frac{-d[A]}{3dt} = \frac{+d[B]}{2dt}$

60. Answer (4)

$t_{1/2} = \frac{0.693}{6 \times 10^{-2}} = 11.55$ sec

61. Answer (3)

$$p_s = p^\circ\left(\frac{9.9}{9.9 + \frac{6}{60}}\right)$$

62. Answer (1)

63. Answer (4)

64. Answer (3)

A = 4

B = 8

$A_4B_8 \Rightarrow AB_2$

65. Answer (2)

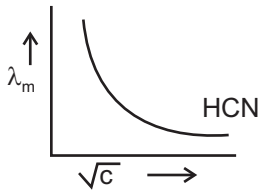
Coagulating power $\propto$ charge of the ion.

66. Answer (3)

First enzyme was synthesised in the lab in 1969.

67. Answer (2)

For weak electrolytes



68. Answer (2)

For electrolytic cell, $\Delta G > 0$.

69. Answer (2)

Pb and Fe will be oxidised in acidic medium.

70. Answer (4)

For Na_2SO_4 ; $\lambda_{eq} = a + \frac{b}{2}$

71. Answer (1)

72. Answer (1)

$$\frac{0.693}{t_{1/2}} = \frac{2.303}{52} \log \frac{100}{(100-70)}$$

$t_{1/2} \simeq 30$ minute

73. Answer (2)

Each body-diagonal contains one Zn^{2+} ion.

74. Answer (1)

75. Answer (3)

76. Answer (2)

77. Answer (1)

$Al^{3+} + 3e^- \rightarrow Al$

27 g Al deposite by = 3 F

5.4 g Al will deposit by = 0.6 F

78. Answer (4)

$\Delta T_f = 0.1 \times 1.86 (1 + 0.4) = 0.26$

Freezing point of acid = 0 – 0.26 = –0.26°C.

79. Answer (2)

$$\kappa = \frac{1}{77}$$

$$\Lambda_m = \frac{\kappa \times 1000}{C} = \frac{1000}{77 \times 0.1} = 130 \text{ S cm}^2 \text{ mol}^{-1}$$

80. Answer (3)

96500 C $\longrightarrow$ N_A number of electron

$$(2 \times 60 \times 2)C \rightarrow \frac{N_A \times 240}{96500} = 0.015 \times 10^{23}$$

$= 0.15 \times 10^{22}$

81. Answer (1)

Rate = $k[A][B]^2$; volume is doubled so, concentration is halved.

82. Answer (1)

83. Answer (2)

Slowest step is rate determining step

84. Answer (1)

Rate = $k[A]^0$

Unit = $molL^{-1}\ sec^{-1}$

85. Answer (3)

$[A_t] = [A_o]e^{-kt}$

86. Answer (2)

at anode: $2H_2O \rightarrow O_2 + 4H^+ + 4e^-$

$2SO_4^{2-} \rightarrow S_2O_8^{2-} + 2e^-$

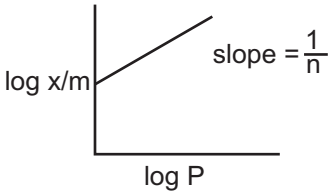
87. Answer (1)

$$SO_2(g) + O_2(g) \xrightarrow{NO(g)} SO_3(g)$$

88. Answer (4)

Soap lather is an example of gas + liquid colloid.

89. Answer (2)



90. Answer (2)

AgI is ZnS type crystal.

BOTANY

91. Answer (2)

Gametic fusion is absent in asexual reproduction.

92. Answer (1)

In binary fission, nucleus is divided into two daughter nuclei. It is an asexual mode of reproduction therefore offsprings are genetically similar to the parent.

93. Answer (3)

Offsets are subaerial stems found in some aquatic plants.

94. Answer (1)

A mature typical anther has four microsporangia.

95. Answer (1)

In Leguminosae, Rosaceae and Solanaceae pollen viability is of several months.

96. Answer (4)

Nucellus forms the body of ovule and chalaza is the basal part of ovule. Funicle is stalk of the ovule.

97. Answer (1)

Cleistogamy is a condition in which flower does not open.

98. Answer (4)

Genetic constitution of a plant is not affected in vegetative propagation.

99. Answer (1)

Phoenix dactylifera seeds are viable for many years. In mature seeds, endosperms may be present or absent.

100. Answer (2)

Cells of anther wall are diploid.

101. Answer (1)

102. Answer (4)

Vegetative propagules are formed by the meristem present in the nodes of stem of banana, ginger etc.

103. Answer (2)

Flowers in *Bombax* are pollinated by birds (ornithophily).

104. Answer (3)

Embryo sac development is pre-fertilisation event.

105. Answer (4)

Tapetum is innermost layer of anther wall. Its cell are polyploid and nourish the developing pollen grains.

106. Answer (1)

Fruitfly = 2 weeks

Crow = 15 years

Parrot = 140 years

107. Answer (4)

Pollen banks store pollen grains in liquid nitrogen for years.

108. Answer (1)

One meiotic division of PMC produces four haploid cells i.e. pollen grains. In each pollen grain 2 mitotic divisions are required for the formation of 3-celled male gametophyte.

109. Answer (2)

110. Answer (1)

Maize plant is monoecious and its flowers are unisexual.

111. Answer (3)

In seed plants, both male and female gametes are non-motile. In *Chara*, nucule occupies upper position than the globule.

112. Answer (1)

In *Ulothrix*, external fertilisation occurs.

113. Answer (3)

Ovaries of wheat, rice and mango have single ovule and ovaries of papaya and orchid have many ovules.

114. Answer (3)

In 82% of angiosperm families, anatropous ovules are found.

115. Answer (2)

Nucellus in angiosperms is diploid. MMC differentiates in the micropylar region from the cell of nucellus.

116. Answer (3)

In rice, endosperm is starchy.

117. Answer (2)

118. Answer (3)

Bacteria – Binary fission

Planaria – Regeneration

Euglena – Longitudinal binary fission

119. Answer (3)

Papaya is dioecious plant.

120. Answer (3)

Most common asexual spores in fungi are conidia.

121. Answer (3)

A - Female reproductive structure

B - Archegoniophore

C - Male reproductive structure

D - Rhizoid

E - Antheridiophore

F - Gemma cup

122. Answer (3)

Vegetative propagules in *Agave* are bulbils.

123. Answer (3)

Two polar nuclei generally fuse together when the pollen tube enter the ovule.

124. Answer (2)

Cereals have starchy seeds. Endosperm in castor is oily.

125. Answer (3)

In germpores, sporopollenin is absent.

126. Answer (4)

Wheat has endospermic seeds.

127. Answer (4)

128. Answer (4)

Strawberry fruit develops from other floral parts and thalamus along with the development of ovary wall, therefore it is a false fruit.

129. Answer (2)

Apple is a false fruit. The wall of ovary forms the wall of fruit. Parthenocarpic fruits are seedless.

130. Answer (2)

Seeds of black pepper and beet are perispermic.

131. Answer (2)

Coleorhiza and coleoptile are the covering sheaths of radicle and shoot apex respectively. Epiblast is the remains of second cotyledon.

132. Answer (4)

Exine of pollen grain has prominent apertures called germpores through which gametes are released into pollen tube.

133. Answer (1)

Non-sticky pollen grains and feathery stigma are the characteristics of wind pollinated flowers.

134. Answer (3)

Fucus, *Bambusa* and *Polygonum* show diplontic life-cycle pattern.

135. Answer (2)

The interflowering period in polycarpic plants is used for building up resources and it is called recovery phase.

ZOOLOGY

136. Answer (2)

Lifespan of crow is 15 years.

137. Answer (2)

In arrhenotoky, only males are developed from unfertilized eggs.

138. Answer (1)

139. Answer (3)

Lippe's loop is an IUD.

140. Answer (4)

Prolactin inhibitory hormone is also known as Dopamine.

141. Answer (1)

In bat and otter, the testes descend into scrotum only during the breeding season.

142. Answer (2)

Mifepristone (RU-486) blocks the action of progesterone.

143. Answer (2)

Oxytocin from mother's pituitary.

144. Answer (3)

Maximum life span of cat is 28 years.

145. Answer (4)

Inner cell mass forms epiblast and hypoblast.

146. Answer (1)

Ceratium exhibits oblique binary fission while *Paramecium* shows transverse binary fission.

147. Answer (4)

Number of primary follicles in each ovary at puberty is 60,000 - 80,000.

148. Answer (3)

Gemmules are internal bud of poriferans. e.g. *Spongilla*

149. Answer (2)

Oviduct lacks flagella. Fallopian tube has simple columnar ciliated epithelia. Fimbriae contains cillia.

150. Answer (2)

151. Answer (3)

The left and right cerebral hemispheres are connected by a nerve tract called corpus callosum.

152. Answer (2)

Leydig cells produce testosterone under the influence of LH secreted by anterior pituitary gland, while FSH acts on sertoli cells.

153. Answer (3)

154. Answer (3)

As luteal phase is fixed for 14 days, ovulation will take place on 35 – 14 = 21st day.

155. Answer (2)

GIFT – Gamete intrafallopian transfer

IUI – Intra uterine insemination.

156. Answer (4)

Middle piece of sperm has nebenkern (spirally arranged mitochondria)

157. Answer (4)

Size of morula is equivalent to size of fertilized egg.

158. Answer (2)

A = Luteal phase = 14 days

B = Follicular phase = 30-14-5 = 11 days

159. Answer (3)

Adrenal cortex – Mesoderm

Nervous system and Adrenal medulla – Ectoderm.

160. Answer (1)

161. Answer (3)

The opening of vagina is often covered partially by a membrane called hymen.

162. Answer (1)

Urethra is common passage for sperms and urine.

163. Answer (2)

Asexual reproduction is uniparental in nature.

164. Answer (1)

Primary spermatocytes is diploid.

165. Answer (2)

Mineralocorticoid mainly control the electrolyte and water balance of the body.

166. Answer (2)

Birth canal includes vagina and cervix.

167. Answer (1)

Mortality is the death rate per thousand individuals.

168. Answer (1)

Humans - 46, Housefly-12, Rat - 42, Dog – 78, Butterfly - 380

169. Answer (2)

Sufficient number of sperms would still be available in semen.

170. Answer (3)

171. Answer (3)

172. Answer (4)

All four can occur due to STDs.

173. Answer (3)

Identical twins are monozygotic *i.e.* they developed from a single fertilized egg that split.

174. Answer (3)

175. Answer (1)

176. Answer (3)

IUI is an assisted reproductive technique.

177. Answer (2)

178. Answer (3)

179. Answer (3)

Demographic transition occurs when birth rate is equal to the death rate.

180. Answer (2)

Gossypol inhibits spermatogenesis.

❑ ❑ ❑