NATIONAL TALENT SEARCH EXAMINATION (NTSE-2018) STAGE -1

STATE : ANDHRA PRADESH PAPER : SAT

Date: 05/11/2017

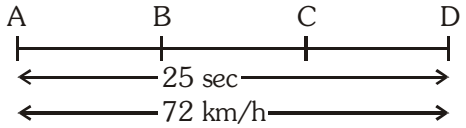
Max. Marks: 100 **SOLUTIONS** **Time allowed: 90 mins**

101. A car starts moving along a line, first with an acceleration a = 5 ms^{-2} starting from rest, then uniformly and finally decelerating at the same rate, comes to rest in the total time of 25 seconds (t_1), then average velocity during the time is equal to v = 72 kmph. How long does the particle move uniformly?

(1) 25 seconds (2) 2.5 hours (3) 1.5 hours (4) 15 seconds

Ans. (4)

Sol.



V_{avg} = 72 km/h = 20 m/s

First part A to B

u = 0 ; a = 5 m/s^2; t = t_1; $s_1 = x_1$

$s = ut + \frac{1}{2}at^2$ $x_1 = 0 + \frac{1}{2}s\,t_1^2$ $x_1 = \frac{5}{2}t_1^2$

Part B to C

$v = u + at$ $x_2 = v \times t_2$ $v = 5t_1$ $x_2 = 5t_1t_2$

Part C to D

$x_3 = ut + \frac{1}{2}at^2$ $x_3 = 5t_1t_3 - \frac{5}{2}t_3^2$

$v_{avg} = \frac{s_1 + s_2 + s_3}{t_1 + t_2 + t_3}$ $v_{avg} = \frac{\frac{st_1^2}{2} + st_1t_2 + st_1t_3 - \frac{5}{2}t_3^2}{25}$

$v_1 = v_2$ $5t_1 = 5t_3$ $t_1 = t_3$ $t_1 + t_2 + t_3 = 25$

$2t_1 + t_2 = 25$

$t_2 = 25 - 2t_1$ $t_1 = \frac{25 - t_2}{2}$

$\frac{5t_1t_2 + 5t_1^2}{25} = 20$ $\frac{t_1t_2 + t_1^2}{5} = 20$ $t_1^2 + t_1t_2 = 100$

$$\left(\frac{25 - t_2}{2}\right)^2 + \left(\frac{25 - t_2}{2}\right)t_2 = 100$$

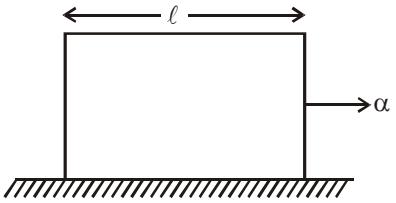
$$\frac{625 - 50t_2 + t_2^2}{4} + \frac{25t_2 - t_2^2}{2} = 100$$

$$\frac{625 - 50t_2 + t_2^2 + 50t_2 - 2t_2^2}{4} = 100$$

$625 - t_2^2 = 400$

t_2 = 15 sec.

102. A uniform rod of length 'L' and density 'ρ' is being pulled along a smooth floor with horizontal acceleration α as shown in the figure. The magnitude of the stress at the transverse cross-section through the mid-point of the rod is



(1) $\frac{\rho\ell\alpha}{4}$ (2) 4 ρℓa (3) 2 ρℓα (4) $\frac{\rho\ell\alpha}{2}$

Ans. (4)

Sol. Mass of 1st half = ρV = $\rho A\frac{L}{2}$

$F = m \times a$ $\quad F = \frac{\rho AL}{2}\times\alpha$

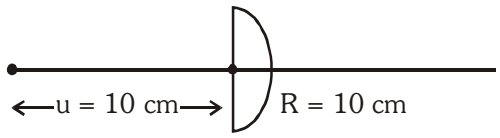
$\text{Stress} = \frac{F}{A} = \frac{\frac{\rho AL\alpha}{2}}{A} = \frac{\rho\ell\alpha}{2}$

103. An object is placed at a distance of 10 cm from the curved surface of a glass hemisphere of radius 10 cm. Find the position of the image from the flat surface.

(1) 26.67 cm (2) 2.67 cm (3) 2 cm (4) 19.67 cm

Ans. (1)

Sol.



$\frac{3/2}{v} - \frac{1}{-10} = \frac{(3/2-1)}{10}$ $\quad \frac{3}{2v} + \frac{1}{10} = \frac{1}{20}$

v = –30 cm

from flat surface d = 40 cm

$\text{A.D.} = \frac{\text{R.D.}}{\mu} = \frac{40}{3/2} = \frac{80}{3} = 26.66\,\text{cm}$

104. A dynamometer D (a force meter) is attached to two masses M = 10 kg and m = 1 kg. Forces F = 2kgf and f = 1 kgf are applied to the masses. Find out is which of the case gives maximum reading.

(A) F is applied to M and f to m.

(B) F is applied to m and F to M.

(C) If M = m = 5 kg.

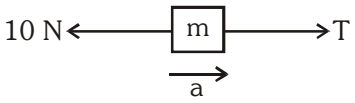
(D) If M is doubled to m. (Ignore m, M values in the problem)

(1) A (2) B (3) C (4) D

Ans. (4)

Sol. (A)

$F_{net} = 20 - 10 = 3a \quad a = \frac{10}{3} m/s^2$



$T - 10 = ma$

$T = 10 + 1 \times \frac{10}{3} = \frac{40}{3} N = 13.33 N = F_s$

(B)

Spring reads the tension force

$F_s = T = F = 20 N$

(C)

$F_{net} = 10 = 10a \qquad a = 1 m/s^2$

$T - 10 = 5 \times 1 \qquad T = 15 N$

$F_s = 15 N$

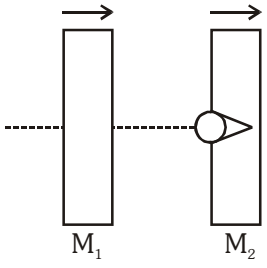
(D)

$F_{net} = 10 = 15a \qquad a = \frac{2}{3} m/s^2$

$T - 10 = 5 \times \frac{2}{3} \qquad T = \frac{80}{3} N$

$F_s = 26.6 N$

105. A 20 g bullet pierces through a plate of mass $M_1 = 1$ kg and then comes to rest inside a second plate of mass $M_2 = 2.98$ kg as shown in the figure. It is found that the two plates initially at rest and now move with equal velocities. Find the percentage loss in the initial velocity of the bullet when it is between M_1 and M_2. (Neglect any loss of material of the plates due to the action of bullet).



(1) 15% (2) 25% (3) 50% (4) 72.5%

Ans. (2)

Sol. $u = v_1$ m/s

velocity with which plate moves = v_2

$mv_1 = m_1v_2 + (m_2 + m)v_2$

$0.02\ v_1 = 1 \times v_2 + (2.98 + 0.02)v_2$

$0.02\ v_1 = v_2 + 3v_2$

$0.02\ v_1 = 4v_2$

$v_1 = \frac{4v_2}{0.02} \times 100$

$v_1 = 200\ v_2$

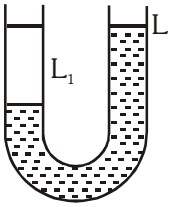
$0.02v_3 = (0.02 + 2.98)v_2$

$0.02v_3 = 3v_2$

$v_3 = 150\ v_2$

$\%\text{loss} = \frac{v_1 - v_3}{v_1} \times 100 = \frac{200v_2 - 150v_2}{200v_2} \times 100 = \frac{50}{200} \times 100 = 25\%$

106. A U-tube of uniform cross-section (see fig.) is partially filled with a liquid L. Another liquid L_1 which does not mix with liquid L is poured into one side. It is found that the liquid levels of two sides of the tube are the same. While levels of liquid L has risen by 2 cm. If the specific gravity of liquid L is 1.1, the specific gravity of liquid L_1 must be



(1) 1.1 (2) 1.3 (3) 1.001 (4) 1.0

Ans. (1)

Sol. As in the given question level on both the arms are same so, their densities and specific gravity is same i.e. 1.1.

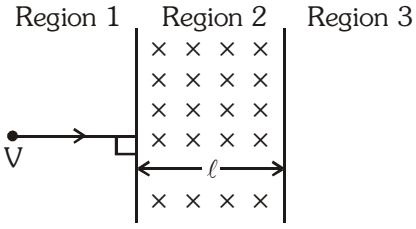
107. The roadway bridge over a canal is in the form of an arc of a circle of radius 20 m. What is the maximum speed with which a car can cross the bridge without leaving the ground at the highest point.

(1) 10 ms^{-1} (2) 12 ms^{-1} (3) 14 ms^{-1} (4) 16 ms^{-1}

Ans. (3)

Sol. $\frac{mv^2}{r} = mg$ $\qquad v = \sqrt{g \times r} = \sqrt{9.8 \times 20} = \sqrt{196} = 14$ m/s

108. A particle of mass M and charge q moving with velocity v enters Region-2 normal to the boundry as shown in the figure. Region-2 has uniform magnetic field B perpendicular to the plane of the paper. The length of the Region-2 is ℓ. Choose the correct choice.



(A) The particle enters Region-3 only if its velocity $v > q\ \ell$ B/m.

(B) The particle enters Region-3 only, if its velocity $v < q\ \ell$ B/m.

(C) Path length of the particle in Region-2 is maximum when velocity $v = q\ \ell$ B/m.

(D) Time spend in Region-2 is same for any velocity v as long as the particle return to Region-1

(1) A only true (2) A, C true (3) A, C, D true (4) All are true

Ans. (2)

Sol. $\frac{mv^2}{r} = qvB \quad \Rightarrow \quad \frac{mv}{r} = qB \quad (\because r = \ell) \quad \Rightarrow v = \frac{q\ell B}{m}$

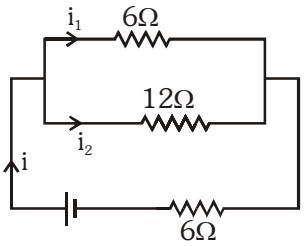
109. 6Ω and 12Ω resistors are connected in parallel. This combination is connected to series with a 10 V battery and 6Ω resistor. What is the potential difference between the terminals of the 12 Ω resistors?

(1) 14 V (2) 16 V (3) 10 V (4) 4 V

Ans. (4)

Sol. $R_{eq} = 10\ \Omega$

$i = 1A$

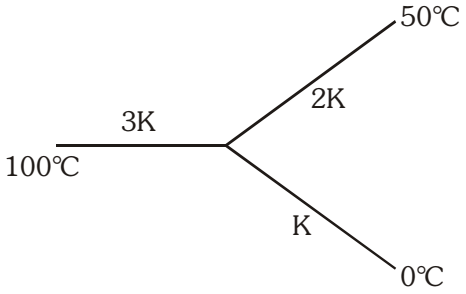


$\Rightarrow i_1 = \frac{3}{2}A$

$\Rightarrow i_2 = \frac{1}{3}A$

$\therefore$ Potential difference between 12 Ω resistance is $i_2R = \frac{1}{3} \times 12 = 4V$

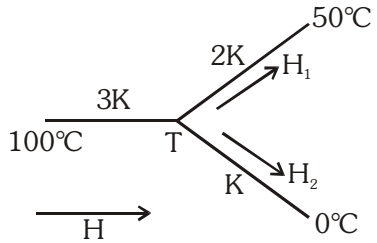
110. Three rods of same dimensions have thermal conductivity 3K, 2K and K. They are arranged as show in the figure below. Then the temperature of the junction in steady state is



(1) $\frac{100}{3}$℃ (2) $\frac{200}{3}$℃ (3) 75 ℃ (4) $\frac{50}{3}$℃

Ans. (2)

Sol.



$H = H_1 + H_2$ Assume junction temperature as T.

$H = \frac{3KA(100 - T)}{x} \qquad H_1 = \frac{2KA(T - 50)}{x} \qquad H_2 = \frac{KA(T - 0)}{x}$

$\frac{3KA(100 - T)}{x} = \frac{2KA(T - 50)}{x} + \frac{KA(T - 0)}{x}$

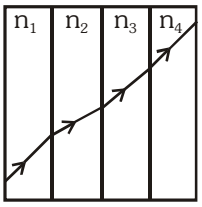
$300 - 3T = 2(T - 50) + T$

$200 - 3T = 2T - 100 + T$

$400 = 6T$

$T = \frac{200}{3}°C$

111. A ray of light passes through 4 transparent media with refractive index n_1, n_2, n_3, n_4 as shown in the figure. The surface of all the medias are parallel. If the emergent ray CD is parallel to the incident ray AB, we must have



(1) $n_1 = n_2$ (2) $n_2 = n_3$ (3) $n_3 = n_4$ (4) $n_4 = n_1$

Ans. (4)

Sol. Since incident and emergent rays are parallel, incident medium (n_1) and emerging medium (n_4) will be same.

112. The velocity of sound in hydrogen at 0°C is 1248 m/s. What will be velocity of sound in mixture of two parts by volume of Hydrogen to one part of Oyxgen? (Oxygen 16 is times heavier than Hydrogen nearly)

(1) 725 m/s (2) 653 m/s (3) 510 m/s (4) 430 m/s

Ans. (3)

Sol. Velocity of sound in hydrogen at T = 273 K, V = 1248 m/s

Pure hydrogen $m_1 = 2$.

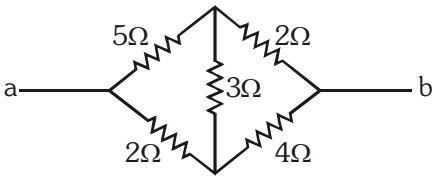
Given ratio of mixture of $H_2 : O_2$ is 2 : 1

Thus new m_2 (mass) = $\frac{2\times2+1\times32}{2+1} = \frac{36}{3}$

$V_{sound} \propto \frac{1}{\sqrt{m}}$ $\Rightarrow \frac{V_{H_2}}{V_{mix}} = \sqrt{\frac{m_2}{m_1}}$ $V_{mix} = V_{H_2}\sqrt{\frac{m_1}{m_2}}$

$V_{mix} = 1248\sqrt{\frac{2\times3}{36}} = \frac{1248}{\sqrt{6}} \simeq 510$ m/s

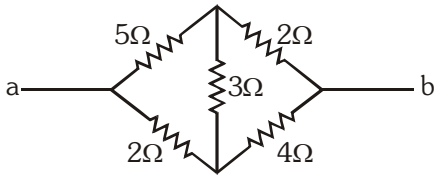
113. Calculate the equivalent resistance between a and b of the following networks of conductors.



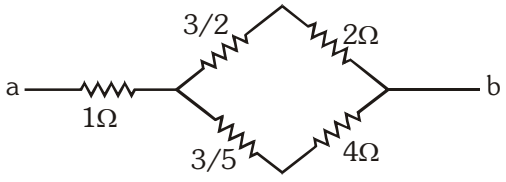
(1) 4 Ω (2) 5 Ω (3) 3 Ω (4) 2 Ω

Ans. (3)

Sol.



Delta to star conversion.



$\Rightarrow R_{eq} = 3\Omega$

114. Some rocket engines use a mixture of Hydrazine, N_2H_4 and Hydrogen peroxide, H_2O_2 as the propellant. The reaction is given by the following equation.

$N_2H_4(\ell) + 2H_2O_2(\ell) \longrightarrow N_2(g) + 4H_2O(g)$

How much of the excess reactant, remains unchanged? When 0.750 mol of N_2H_4 is mixed with 17 g of H_2O_2?

(1) 16 g N_2H_4 (2) 0.25 mol H_2O_2 (3) 0.25 mol N_2H_4 (4) 8.5 g H_2O_2

Ans. (1)

Sol. $N_2H_4 + 2H_2O_2 \longrightarrow N_2 + 4H_2O$

1 : 2

0.75 mol 0.5 mol

$N_2H_4 = 0.75$ $H_2O_2 = \frac{0.5}{2} = \boxed{0.2} \longrightarrow$ L.R.

2 mol of $H_2O_2 \longrightarrow$ 1 mol of N_2H_4

0.5 mol $- \frac{1}{2} \times 0.5 = 0.25$ mol of N_2H_4

0.75 mol of N_2H_4 – used = 0.75 – 0.25 = 0.5 mol

0.5 mol of N_2H_4 = 16 gm of N_2H_4 is left unused.

115. Which one of the following combinations is false?

	Solution type	Particle size
(1)	Colloidal solution	10^{-5} to 10^{-7} cm
(2)	True solution	10^{-7} to 10^{-8} cm
(3)	Suspension	10^{-9} to 10^{-12} cm
(4)	All are correct combinations.	

Ans. (3)

Sol. Particle size of suspension is more than 100 nm or greater than 10^{-5} cm.

116. Which of the following is not an oxidation reaction?

(1) Bleaching of coloured objects using moist chlorine.

(2) Rancidity of fats.

(3) Thermite process involving the reaction of iron (III) oxide (or) Chromium (III) oxide etc., with Alumnium.

(4) The poling process involving the removal of impurities from a molten metal.

Ans. (3)

Sol. More reactive element reduces the compound in thermite process.

117. The gaseous hydrocarbon Acetylene, C_2H_2 used in welder's torches, releases 1300 KJ, when 1 mole of C_2H_2 undergoes combustion, then which of the following is not true?

(1) Combustion of Acetylene is an exothermic reaction.

(2) The balanced chemical reaction of combustion of Acetylene is :

$C_2H_2 + 5O_2 \longrightarrow 2CO_2 + H_2O$

(3) 2 moles of water produced when 2 moles of Acetylene reacts.

(4) 44 g of CO_2 produced, when 13 g of Acetylene reacts.

Ans. (2)

Sol. Balanced chemical reaction

$2C_2H_2 + 3O_2 \longrightarrow 4CO_2 + 2H_2O$

118. Following are the representative wave-lengths in the infra-red, Ultra-violet and X-ray regions of the electromagnetic spectrum 1.0×10^{-6} m, 1.0×10^{-8} m and 1.0×10^{-10} m. Which of the following statements is false?

(1) The corresponding frequencies of X-ray, UV and IR are in the ratio of $10^4 : 10^2 : 1$.

(2) The corresponding energies of X-ray, UV and IR are in the ratio of $1 : 10^{-2} : 10^{-4}$.

(3) The corresponding velocities of X-ray, UV and IR are in the ratio of $1 : 10^2 : 10^4$.

(4) X-rays, UV and IR waves are electromagnetic waves. These are transverse waves.

Ans. (3)

Sol. $\lambda \propto \frac{1}{\nu}$ wavelength $\propto \frac{1}{\text{frequency}}$

	X-Ray	UV	IR
Ratio of wavelength	10^{-10}	10^{-8}	10^{-6}
Ratio of frequency	10^{10}	10^8	10^6
	10^4	10^2	1

$E = h\nu$

$E \propto \nu$

$\frac{10^4}{10^4} : \frac{10^2}{10^4} : \frac{1}{10^4} = 1 : 10^{-2} \quad 10^{-4}$

$\Rightarrow \lambda = \frac{h}{mv}$ $\lambda \propto \frac{1}{\nu}$

Same as energy and frequency ratio will be $1 : 10^{-2} : 10^{-4}$. So this statement is incorrect.

Theses are electromagnetic & transverse waves.

119. An atom has 2K, 8L and 5M electrons. Choose the correct statement(s) regarding it.

A. Tri valent anion of this atom will have 12 protons in its nucleus.

B. Tri valent cation of this atom will have six p-electrons in it.

C. This atom form an amphoteric oxide of formula X_2O_3.

D. One of its allotrope is tetra atomic (X_4).

(1) A and B (2) B only (3) B and C (4) B and D

Ans. (4)

Sol. The element is phosphorus (P) which exists as P_4 molecule and its trivalent cation (P^{+3}) will have 6 p-electrons in it.

$_{15}P \Rightarrow 1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^3$

$_{15}P^{3+} \Rightarrow 1s^2\ 2s^2\ 2p^6\ 3s^2$

120. Chlorine (Cl) and Oxygen form four different binary compounds. Analysis gives the following results :

Compound	Mass of O combined with 1.0 g Cl
A	0.226 g
B	0.903 g
C	1.354 g
D	1.579 g

Compound A has a formula that is some multiple of Cl_2O, then which of the following is incorrectly said?

(1) Compound B is Cl_2O_5 (or Cl_4O_{10}, or Cl_6O_{15}, and so forth).

(2) Compound C is Cl_2O_6 (or ClO_3, or Cl_3O_9, and so forth).

(3) Compound D is Cl_2O_7 (or a multiple thereof).

(4) The above data show that the law of multiple proportions holds for these compounds.

Ans. (1)

Sol. Multiple proportion law $\Rightarrow$ According to this law atoms are combine in multiple ratio of their atoms.

$B : A = \frac{0.903}{0.226} = 3.99 \approx 4$

Cl_2O_5 is not compound, that has this ratio. So this statment is incorrect.

121. The reusable booster rockets of the U.S. space shuttle uses a mixture of Aluminium and Ammonium perchlorate for fuel. A possible equation for this reaction is……

$3Al(s) + 3NH_4ClO_4(s) \longrightarrow Al_2O_3(s) + AlCl_3(s) + 3NO(g) + 6H_2O(s)$

What mass of NH_4ClO_4 should be used in the fuel mixture for every kilogram of Al?

(1) 3 kg (2) 3.388 kg (3) 4.351 kg (4) 4 kg

Ans. (3)

Sol. 27 g of Al will react with = 117.5 g of NH_4ClO_4

Every 1000 g of Al will react with = $\frac{117.5}{27}$ of NH_4ClO_4 = 4.351 kg

122. All of the following processes involve a separation of either a mixture into its components, or a compound into elements. For each, decide whether a physical process or a chemical reaction is required.

a. Sodium metal is obtained from the substance Sodium chloride.

b. Iron filings are separated from sand by using a magnet.

c. Sugar crystals are separated from sugar syrup by evaporation of water.

d. Fine crystals of Silver chloride are separated from a suspension of the crystals in water.

e. Copper is produced when Zinc metal is placed in a solution of Copper (II) sulphate, a compound.

Physical processes	Chemical processes
(1) a, b, c	d, e
(2) a, d	b, c, e
(3) b, c, d	a, e
(4) e	a, b, e, d

Ans. (3)

Sol. b, c, d are physical changes while a, e are chemical changes.

123. What mass of Oxygen is combined with 9.02 g of Sulphur in (a) Sulphur dioxide, SO_2 and (b) Sulphur trioxide, SO_3?

(1) 23.5g O in SO_2 and 19.02g O in SO_3. (2) 19.02g O in SO_2 and 23.5g O in SO_3.

(3) 9.02g O in SO_2 and 13.5g O in SO_3. (4) 9.02g O in SO_3 and 13.5g O in SO_2.

Ans. (3)

Sol. $S + O_2 \longrightarrow SO_2$

32 gm of S combines = 32 g of O.

Thus 9.02 g of S combines = $\frac{32}{32} \times 9.02 = 9.02$ g

$2S + 3O_2 \longrightarrow 2SO_3$

2×32 g of S uses = 3×32 gm O_2

9.02 g of S uses = $\frac{3 \times 32}{2 \times 32} \times 9.02 = 13.5$ g

124. On an hypothetical planet the major solvent is liquid Ammonia, not water. Ammonia auto ionises much like water.

($2NH_3 \rightleftharpoons NH_4^+ + NH_2^-$)

If instead of water, ammonia is used as a solvent, the acid base neutralisation reaction for the formation of NaCl is.....

(1) $NaNH_4 + NH_2Cl \longrightarrow NaCl + 2NH_3$ (2) $NaNH_2 + NH_4Cl \longrightarrow NaCl + 2NH_3$

(3) $NaNH_3 + NH_3Cl \longrightarrow NaCl + 2NH_3$ (4) $NaNH_4 + NH_4Cl \longrightarrow NaCl + 2NH_4^+$

Ans. (2)

Sol. $2NH_3 \rightleftharpoons NH_4^+ + NH_2^-$

$NH_4^+ + NH_2^- + Na^+Cl \longrightarrow NH_4^+Cl^- + NaNH_2$

Reaction would be

$NH_4Cl + NaNH_2 \longrightarrow NaCl + 2NH_3$

125. The purity of a substance can be gauged by the following, except :

(1) Its melting point (2) Its boiling point (g) Chromatography (4) Physical appearance

Ans. (4)

Sol. Physical appearance can't determine purity of a substance.

126. You are presented with three bottles A, B, C each containing a different liquid. Bottles are labelled as follows :

Bottle A : ionic compond - Boiling point 30°C

Botle B : molecular compound - Boiling point 29.2°C

Bottle C : molecular compound - Boiling point 67.1°C

Choose the correct statement :

(1) The compound most likely to be incorrectly identified is bottle A.

(2) The substance in bottle B has strongest intermolecular attractions.

(3) The substance in bottle C is highly volatile.

(4) A pure aqueous solution of compound in bottle B is a good conductor of electricity among the three.

Ans. (1)

Sol. Ionic compounds have high melting point and boiling point.

127. Minamata disease is due to

(1) MIC gas (2) Methyl mercury (3) Lead nitrate (4) Cobalt chloride

Ans. (2)

Sol. Minamata disease, some times referred to as Chisso - Minamata disease, is a neurological syndrome caused by severe mercury poisoning.

128. The region in brain portion that controls hunger is

(1) Medulla (2) Diencephalon (3) Cerebrum (4) Mid brain

Ans. (2)

Sol. Diencephalon is the region of brain which controls hunger.

129. What will happen, if the sperm containing 'X' chromosomes fertilise the Ovum ?

(1) Female child born (2) Male child born (3) Can not guess (4) None

Ans. (1)

Sol. When sperm containing X chromosome fertilizes the ovum, female child (XX) will born.

130. Which is not correct ?

(1) Embryology – Aristotle (2) Taxonomy – Carolus Linnaeus

(3) Paleontology – Leonordo da Vinci. (4) Cytology – Robert Brown

Ans. (4)

Sol. Robert Brown discovered nucleus.

131. Permanent surgical method for birth control in male human beings is……

(1) Hysterectomy (2) Dialysis (3) Tubectomy (4) Vasectomy

Ans. (4)

Sol. Vasectomy is a surgical method for birth control in male human.

132. Pernicious anemia is caused due to the deficiency of….

(1) Biotin (2) Calciferol (3) Cyanocobalamine (4) Ascorbic acid

Ans. (3)

Sol. Pernicious anemia is caused due to the deficiency of cyanocobalamine.

133. Match the item in Column I with Column II.

	Column I		**Column II**
(a)	Ribosomes	(i)	Suicidal bags
(b)	Mitochondria	(ii)	Control functions of cell.
(c)	Nucleus	(iii)	Protein synthesis
(d)	Lysosomes	(iv)	Power house of the cell

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

Ans. (1)

Sol. (a) Ribosomes – Protein synthesis

(b) Mitochondria – Power house of the cell

(c) Nucleus – Control functions of cell.

(d) Lysosomes – Suicidal bags

134. The salinity of sea water is……

(1) 2.5% (2) 3.5% (3) 4.5% (4) 5.5%

Ans. (2)

Sol. The salinity of sea water is 3.5%.

135. Who discovered blood capillaries ?

(1) William Harvey (2) Girolamo Fabrici (3) Marcello Malpighi (4) Robert Brown

Ans. (3)

Sol. Marcello Malpighi discovered blood capillaries.

136. According to Charles Eltion, which is not correct.

(1) Carnivores at the top of the Pyramid. (2) Energy trapping is high at the top of the Pyramid.

(3) Producers at the top of the Pyramid. (4) (2) and (3)

Ans. (4)

Sol. According to Charles Eltion producers are present at the base of pyramid and carnivores at the top. According to 10% law of energy transfer, energy goes on decreasing with increasing trophic level. Thus energy trapping is high at the base of the pyramid.

137. World conservation strategy was proposed by IUCN in……

(1) 1948 (2) 1980 (3) 1990 (4) 1993

Ans. (2)

Sol. World conservation strategy was proposed by IUCN in 1980.

138. Choose the incorrect pair.

(1) Ovary – Estrogen (2) Adrenal - Adrenalin

(3) Pituitary - Thyroxine (4) Testis – Testosterone

Ans. (3)

Sol. Thyroxine is not secreted by the pituitary gland. It is secreted by thyroid gland.

139. If a rat ia given a mild electric shock when it goes to a certain part of its cage, it eventually avoid going there. This is because of.....

(1) Imitation (2) Conditioning (3) Instinct (4) Imprinting

Ans. (2)

Sol. Classical conditioning refers to learning procedure in which a biologically potent stimulus is paired with a previously neutral stimulus.

140. The tongue of a person is exposed to a high salty taste, then.....

(1) The person learns to taste salty things better.

(2) Loves tasting salty things.

(3) Hates tasting salty things

(4) Fails to taste a less salty thing just after the exposure.

Ans. (4)

Sol. When the tongue of a person is exposed to a high salty taste, then he fails to taste a less salty thing just after the exposure.

141. When 31513 and 34369 are divided by a certain three digit number, the remainders are equal, then the remainder is .....

(1) 86 (2) 97 (3) 374 (4) 113

Ans. (2)

Sol. $31513 = n + m \times abc$

$34369 = n + s \times abc$

$34369 - 31513 = (s - m)abc$

$2856 = 2 \times 2 \times 2 \times 3 \times 7 \times 17$

Possibilities for abc are :-

$abc = 2 \times 2 \times 2 \times 3 \times 7 = 168$ R = 97

$abc = 2 \times 2 \times 2 \times 3 \times 17 = 408$ R = 97

$abc = 2 \times 2 \times 2 \times 17 = 136$ R = 97

$abc = 2 \times 2 \times 3 \times 17 = 204$ R = 97

$abc = 2 \times 2 \times 7 \times 17 = 476$ R = 97

and so on.

In all the cases remainder is always 97.

142. The greatest number of four digits which when divided by 3, 5, 7, 9 leaves the remainders 1, 3, 5, 7 respectively, is .....

(1) 9763 (2) 9673 (3) 9367 (4) 9969

Ans. (1)

Sol. $3 - 1 = 5 - 3 = 7 - 5 = 9 - 7 = 2$

So number = L.C.M. (3, 5, 7, 9) – 2

L.C.M. (3, 5, 7, 9) = 315

For greatest 4-digit number = $\frac{9999}{315} = 31$

So, $315 \times 31 - 2$

$\Rightarrow 9765 - 2 = 9763$

143. *e* f g h is a four digit number. One hundredth of *e* f g h is the mean of *ef* and gh, then the four digit number is ……..

(1) 3648 (2) 4950 (3) 4590 (4) 4468

Ans. (2)

Sol. $\frac{efgh}{100} = \frac{ef + gh}{2}$

$\frac{1}{100}[1000e + 100f + 10g + h] = \frac{1}{2}[(10e + f) + (10g + h)]$

$(10e + f) + \frac{1}{100}(10g + h) = \frac{1}{2}(10e + f) + \frac{1}{2}(10g + h)$

$\frac{1}{2}(10e + f) = \frac{49}{100}(10g + h)$

$\Rightarrow$ 50 (10e + f) = 49 (10g + h) ….. (1)

So that $10e + f = 49$

$10g + g = 50$

*e*fgh = 4950

144. If $x^2 + xy + x = 12$ and $y^2 + xy + y = 18$, then the value of x + y is …….

(1) 5 or – 6 (2) 3 or 4 (3) 5 or 3 (4) 6 or – 3

Ans. (1)

Sol. $x^2 + xy + x = 12$ ….. (1)

$y^2 + xy + y = 18$ ….. (2)

Adding eq (1) and (2)

$\Rightarrow x^2 + 2xy + y^2 + x + y = 30$

$\Rightarrow (x + y)^2 + (x + y) = 30$

$\Rightarrow (x + y)(x + y + 1) = 30$

So x + y = 5 or – 6

145. If 217x + 131y = 913 and 131x + 217y = 827, then the value of x + y is ……..

(1) 8 (2) 5 (3) 7 (4) 6

Ans. (2)

Sol. 217 x + 131y = 913 …… (1)

131 x + 217y = 827 …… (2)

Adding equation (1) and (2)

348x + 348y = 1740

x + y = 5

146. If $x = \dfrac{1}{2-\dfrac{1}{2-\dfrac{1}{2-x}}}$, $(x \neq 2)$ then the value of x is .....

(1) 1 (2) 3 (3) 2 (4) 5

Ans. (1)

Sol. $x = \dfrac{2}{2-\dfrac{1}{2-\dfrac{1}{2-x}}} \Rightarrow \dfrac{2}{2-\dfrac{1}{\dfrac{4-2x-1}{2-x}}}$

$\Rightarrow \dfrac{1}{2-\dfrac{2-x}{3-2x}} \Rightarrow \dfrac{1}{\dfrac{6-4x-2+x}{3-2x}} \Rightarrow \dfrac{3-2x}{4-3x} = x$

$\Rightarrow 3 - 2x = 4x - 3x^2$

$\Rightarrow 3x^2 - 6x + 3 = 0$

$\Rightarrow x^2 - 2x + 1 = 0$

$\Rightarrow (x - 1)^2 = 0$

$\Rightarrow x = 1$

147. x_1, x_2, x_3 ..... are in A.P. If $x_1 + x_7 + x_{10} = -6$ and $x_3 + x_8 + x_{12} - 11$, then $x_3 + x_8 + x_{22} = ?$

(1) –21 (2) –15 (3) –18 (4) –31

Ans. (1)

Sol. $x_1 + x_7 + x_{10} = -6$

$\Rightarrow 3a + 15d = -6$ ..... (1)

and $x_3 + x_8 + x_{12} = -11$

$\Rightarrow 3a + 20d = -11$ ..... (2)

Subtracting equation (1) from (2)

$\Rightarrow d = -1$

From (1), $a = 3$

So, $x_3 + x_8 + x_{22}$

$\Rightarrow a + 2d + a + 7d + a + 21d$

$\Rightarrow 3a + 30d$

$\Rightarrow -21$

148. If $\dfrac{2+5+8+.....\text{n terms}}{7+11+16+....\text{n terms}} = \dfrac{23}{35}$, then n value is .....

(1) 17 (2) 15 (3) 18 (4) 23

Ans. (2)

Sol. $\dfrac{4+(n-1)3}{14+(n-1)4} = \dfrac{23}{35}$

$\Rightarrow \dfrac{3n+1}{4n+10} = \dfrac{23}{35}$

$\Rightarrow 105n + 35 = 92n + 230$

$\Rightarrow 13n = 195$

$\Rightarrow n = 15$

149. If the co-ordinates of the midpoints of the sides of a triangle are (1, 1), (2, –3) and (3, 4), then the centroid of the triangle is .....

(1) $\left(3,\frac{1}{3}\right)$ (2) $\left(1,\frac{2}{3}\right)$ (3) (3, 1) (4) $\left(2,\frac{2}{3}\right)$

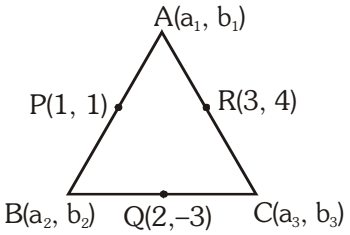
Ans. (4)

Sol. Let A, B, C be the vertices and P, Q, R be the mid point of the sides of a triangle. Then,

$\Rightarrow a_1 + a_2 + a_3 = 1 + 2 + 3 = 6$ and $b_1 + b_2 + b_3 = 2$

$\therefore$ Centroid is $\left(\frac{a_1+a_2+a_3}{3},\frac{b_1+b_2+b_3}{3}\right)$

$= \left(2,\frac{2}{3}\right)$



150. If two vertices of an equilateral triangle be (0, 0) and $\left(3,\sqrt{3}\right)$, then the third vertex is .....

(1) $\left(1,3\sqrt{3}\right)$ (2) $\left(0,2\sqrt{3}\right)$ (3) $\left(3,\sqrt{3}\right)$ (4) $\left(1,\sqrt{3}\right)$

Ans. (2)

Sol. Let the third vertex be C(x, y)

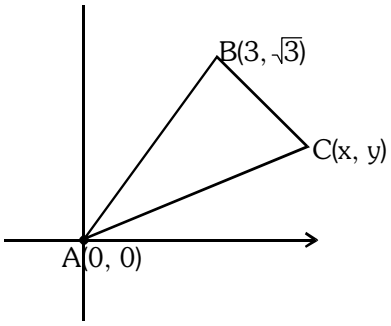
Then,

$\Rightarrow AB^2 = BC^2 = CA^2$

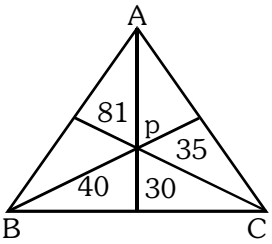
$\Rightarrow 12 = (x-3)^2 + \left(y-\sqrt{3}\right)^2 = x^2 + y^2$

$\Rightarrow 12 = x^2 + y^2 - 6x - 2\sqrt{3}\,y + 12 = x^2 + y^2$

On solving, we get $\boxed{x = 0, y = 2\sqrt{3}}$



151. As shown in the given figure, ΔABC is divided into six smaller triangles by lines drawn from the vertices through a common interior point. The areas of four of 6 triangles are as indicated, then the area of ΔABC is .....



(1) 238 (2) 464 (3) 315 (4) 412

Ans. (3)

Sol. Let a & b be the area of ΔAPM and ΔBPN respectively

Then,

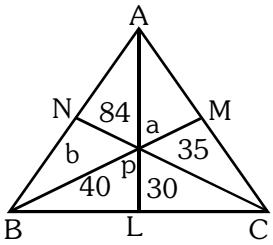
$\Rightarrow \frac{\text{area}(\Delta BPL)}{\text{area}(\Delta PLC)} = \frac{\text{ar}(\Delta ABL)}{\text{ar}(\Delta ALC)}$

$\frac{40}{30} = \frac{84+b+40}{a+35+30}$ ..... (1)

Also,

$$\frac{ar(\Delta CPM)}{ar(\Delta APM)} = \frac{ar(\Delta BCM)}{ar(\Delta ABM)}$$

$$\Rightarrow \quad \frac{35}{a} = \frac{40+30+35}{a+b+84} \qquad \text{..... (2)}$$



from (1) and (2), we get

a = 56 and b = 70

$\therefore \quad \boxed{ar(\Delta ABC) = 315}$

152. ABC is a right angled with $\angle B = 90°$, m is the midpoint of AC and B m = $\sqrt{177}$ cm, AB + BC = 30 then the area of the triangle is ....

(1) 108 cm^2 (2) 248 cm^2 (3) 316 cm^2 (4) 156 cm^2

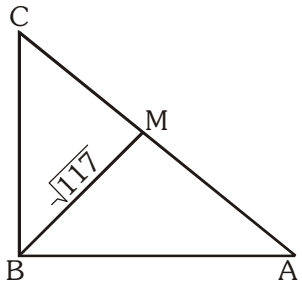
Ans. (1)

Sol. Given,

BM = $\sqrt{117}$ and AB + BC = 30

Here,

$\therefore \quad AC = AM + CM = 2\sqrt{117}$



Now,

$AB^2 + BC^2 = AC^2$

$\Rightarrow (AB + BC)^2 - 2AB.BC = 4 \times 117$

$\Rightarrow 900 - 2AB.BC = 468$

$\Rightarrow 2AB.BC = 432$

$\Rightarrow AB(30 - AB) = 216$

$\Rightarrow AB^2 - 18AB - 12AB + 216 = 0$

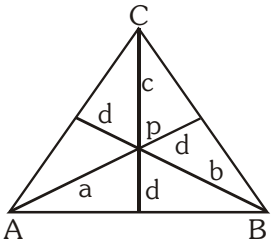
$\Rightarrow (AB - 18)(AB - 12) = 0$

$\Rightarrow AB = 12, 18$

$\therefore \quad BC = 18, 12$

So, $ar(\Delta ABC) = \frac{1}{2} \times 12 \times 18 = 108\ cm^2$

153. Let p be an interior point of ΔABC and extend lines from the vertices through p to the opposite sides. Let a, b, c and d divides the lengths of the segments indicated in the figure. Find the product of abc, if a + b + c = 43 and d = 3.



(1) 168 (2) 256 (3) 346 (4) 441

Ans. (4)

Sol. Call the cevians AD, AE, and CF. Using area ratios (ΔPBC and ΔABC have the same base), we have :

$$\frac{d}{a+d} = \frac{[PBC]}{[ABC]}$$

Similarily, $\frac{d}{b+d} = \frac{[PCA]}{[ABC]}$ and $\frac{d}{c+d} = \frac{[PAB]}{[ABC]}$

Then,

$$\frac{d}{a+d} + \frac{d}{b+d} + \frac{d}{c+d} \frac{[PBC]}{[ABC]} + \frac{[PCA]}{[ABC]} + \frac{[PAB]}{[ABC]} = \frac{[ABC]}{[ABC]} = 1$$

The identity $\frac{d}{a+d} + \frac{d}{b+d} + \frac{d}{c+d} = 1$ is a form of Ceva's Theorem.

Plugging in d = 3, we get

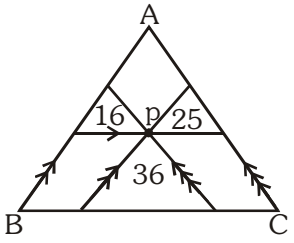
$$\frac{3}{a+3} + \frac{3}{b+3} + \frac{3}{c+3} = 1$$

$3[(a + 3)(b + 3) + (b + 3)(c + 3) + (c + 3)(a + 3)] = (a + 3)(b + 3)(c + 3)$

$3(ab + bc + ca) + 18(a + b + c) + 81 = abc + 3(ab + bc + ca) + 9(a + b + c) + 27$

$9(a + b + c) + 54 = abc = \boxed{441}$

154. As shown in the figure in ΔABC, p is an interior point. Through the point p, three lines are drawn parallel to three sides as shown in the figure. If the areas of smaller triangles are 16, 25 and 36 square units respectively, then the area of ΔABC in square units is



(1) 324 (2) 196 (3) 225 (4) 784

Ans. (3)

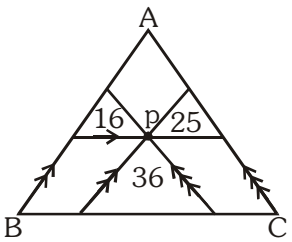
Sol. Let A_1, A_2, A_3 be the three triangles with area 16, 25, 36 respectively

Now, triangles A_1, A_2, A_3 and ΔABC are similar triangles.

So, $ar(\Delta ABC) = (4 + 6 + 5)^2$

$= (15)^2$

$= 225\ cm^2$



155. In an equailateral triangle ABC, the side BC is trisected at D, then $9AD^2$ is …

(1) $7AB^2$ (2) $8BC^2$ (3) $4AC^2$ (4) $\frac{3}{2}AB^2$

Ans. (1)

Sol. $\Rightarrow 9AD^2$

$\Rightarrow 9[AE^2 + DE^2]$

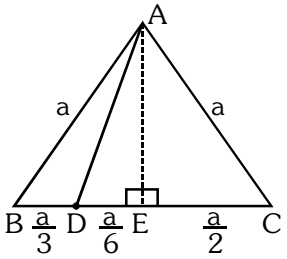
$\Rightarrow 9\left[\left(\frac{\sqrt{3}}{2}a\right)^2 + \left(\frac{a}{6}\right)^2\right]$

$\Rightarrow 9\left(\frac{3a^2}{4} + \frac{a^2}{36}\right)$

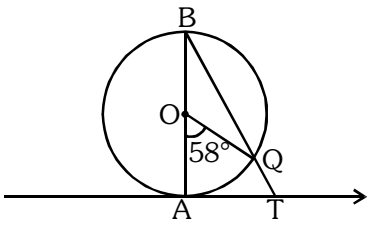
$\Rightarrow 9\left(\frac{27a^2 + a^2}{36}\right)$

$\Rightarrow 7a^2$

$\Rightarrow 7AB^2$



156. In the given figure, AB is the diameter of a circle with O and AT is a tangent. If $\angle AOQ = 58°$, then the value of $\angle ATQ$ is ....



(1) 52° (2) 61° (3) 46° (4) 75°

Ans. (2)

Sol. $\angle AOT = 58°$

$\therefore \angle ABT = 29°$

In ΔABT,

$\angle ABT + \angle BTA + \angle TAB = 180°$

$29° + \angle BTA + 90° = 180°$

$\angle BTA = 61°$

$\therefore \angle ATQ = 61°$

157. The radii of two cylinders are in the ratio 2 : 3 and their heights are in the ratio 5 : 3, then the ratio of their volumes is ..

(1) 15 : 16 (2) 14 : 17 (3) 20 : 27 (4) 4 : 9

Ans. (3)

Sol. $\frac{V_1}{V_2} = \frac{\pi r_1^2 h_1}{\pi r_2^2 h_2}$

$= \left(\frac{r_1}{r_2}\right)^2 \frac{h_1}{h_2} = \left(\frac{2}{3}\right)^2 \frac{5}{3} = \frac{20}{27}$

158. If the area of three adjacent faces of a cuboid are x, y and z respectively, then the volume of a cuboid is .....

(1) $\sqrt{xyz}$ (2) $x + y + z$ (3) x^2yz (4) $xy + z$

Ans. (1)

Sol. $\ell b = x$ ..... (1)

$bh = y$ ..... (2)

$h\ell = z$ .....(3)

Multiplying equation (1), (2) and (3),

$(\ell bh)^2 = xyz$

$V^2 = xyz$

$V = \sqrt{xyz}$

159. If $\tan\theta + \cot\theta = 2$, then the value of $\tan^2\theta + \cot^2\theta$ is ...

(1) 4 (2) 2 (3) $\frac{3}{2}$ (4) 5

Ans. (2)

Sol. $\tan\theta + \cot\theta = 2$

$\tan^2\theta + \cot^2\theta + 2.\tan\theta.\cot\theta = 4$

$\tan^2\theta + \cot^2\theta = 2$

160. A bag contains 15 balls of which x are black and remaining are red. If the number of red balls are increased by 5, the probability of drawing the red balls doubles, then the probability of drawing red ball is .....

(1) $\frac{1}{5}$ (2) $\frac{4}{5}$ (3) $\frac{3}{5}$ (4) $\frac{2}{5}$

Ans. (1)

Sol. Let the number of black balls be x

$\therefore$ Number of red balls = $15 - x$

$$2\left(\frac{15-x}{15}\right) = \frac{20-x}{20}$$

$\Rightarrow x = 12$

then number of red balls = $15 - 12 = 3$

Probability (red ball) = $\frac{3}{15} = \frac{1}{5}$

161. "For this earth is not allotted to anyone nor is it presented to anyone as a gift. It is awarded by providence to people who in their hearts have the courage to conquer it, the strength to preserve" it and the industry to put it to the plough. " Whose ideology is this.

(1) Benito Mussolini (2) Adolf Hilter (3) Ho Chi Minh (4) Stalin

Ans. (2)

Sol. Adolf Hitler relates with this ideology

162. According to the census of 1921, 12 to 13 million people perished as a result of …
(1) First World War (2) Epidemics (3) Famines (4) All the above

Ans. (4)

Sol. According to the census of 1921, 12 and 13 million people perished as a result of First World War, Epidemics and famines.

163. Find out the wrong statement about Giuseppe Mazzini?
(1) He was a member of the secret society of the Carbonari.
(2) He believed "The God had intended nations to be the natural units of mankind".
(3) He was the founder of young Europe
(4) None of the above

Ans. (4)

Sol. All statements relates with Mazzini.

164. Who wrote the book "The History of the loss of Vietnam"?
(1) Phan Boi Chau (2) Ho Chi Minh (3) Huynh Phu So (4) Phan Chu Trinh

Ans. (1)

Sol. Phan Boi Chau wrote "The history of the Loss Vietnam"

165. Compulsory Elementary Education Act was made in England in the year …
(1) 1829 (2) 1849 (3) 1860 (4) 1870

Ans. (4)

Sol. Compulsory Elementary Education Act was made in England in the year of 1870

166. Who developed the concept of "The principle of the Garden City"?
(1) Andrew Means (2) Henry Mayhew (3) Ebenezer Howard (4) Haussman

Ans. (3)

Sol. Ebenezer Howard developed the concept of "The principle of Garden city".

167. Who wrote "Ninety five Theses" criticizing many of the practices and rituals of the Roman Catholic Church?
(1) Martin Luther (2) Thomas Pain (3) J.V. Schley (4) Richard M. Hoe

Ans. (1)

Sol. Martin Luther wrote Ninety five theses

168. Kashi baba, a Kanpur mill worker wrote and published "Chhote Aur Bade Ka Sawal" in 1938 to show the links between ….
(1) Caste and Class exploitation (2) Caste and Religion relation
(3) Income and Untouchability (4) Industrialists and Politicians

Ans. (1)

Sol. It shows the link of class and caste exploitation

169. "Only a decade ago, they were as illiterate, helpess and hungry as our own masses, who could be more astonished then an unfortunate Indian like myself to see how they had removed the mountains of ignorance and helplessness in these few years." Name the Indian, who quoted this Russian revolution?
(1) M N Roy (2) Rabindranath Tagore
(3) Mahatama Gandhi (4) Jawaharlal Nehru

Ans. (2)

Sol. Rabindranath Tagore quoted this statement

170. Find out the wrong statement related to Franklin Roosevelt.
(1) Announced New Deal Policy to eradicate economic depression.
(2) Introduced the much needed Social Security system.
(3) President of America during Second World War.
(4) None of the above.

Ans. (4)

Sol. All statement related to Franklin Roosevelt

171. The Ryotwari settlement was introduced by the British in the

(1) Madras Presidency (2) Bengal presidency (3) Central Presidency (4) Assam Presidency

Ans. (1)

Sol. The Royatwari settlement was introduced by British in the Madras Presidency.

172. The famous Quit Indian resolution was passed on ….

(1) August 18, 1942 (2) April 4, 1942 (3) April 14, 1942 (4) August 8, 1942

Ans. (4)

Sol. The famous Quit Indian Resolution was passed on August 8,1942

173. Sikkim, West Bengal, Assam and Arunachal Pradesh have common frontiers with …

(1) China (2) Bhutan (3) Bangladesh (4) Mayanmar

Ans. (2)

Sol. Sikkim West Bengal , Assam , Arunachal Pradesh have common frontiers with Bhutan

174. Which of these is not a Himachal Range?

(1) Dhaula Dhar (2) Pirpanjal Range (3) Kailash Range (4) Mahabharat Range

Ans. (3)

Sol. Kailash range is not included in Himachal Range

175. The Himalayas is divided into four major Geological sections. Choose among the following which is not one of them.

(1) Nepal Himalayas - Between Kali and Teesta. (2) Mahabharat Himalayas – Between Indus and Gilgit.

(3) Kumaon Himalayas - Between Sutlej and Teesta (4) Assam Himalayas – Between Teesta and Dihang.

Ans. (2)

Sol. Mahabharata Himalayas is not associated with Himalayas range

176. Match list A with B and Select the correct answer using the codes given below the list

List - A	List - B
(a) Hyderabad is warmer than Mumbai	(i) Altitude
(b) Snowfall in Himalayas.	(ii) Mango showers.
(c) North western plain gets rainfall in winter	(iii) Distance from sea
(d) rainfall in summer	(iv) Western depression

a	b	c	d
(1) iii	ii	iv	i
(2) ii	i	iii	iv
(3) iii	i	iv	ii
(4) iv	ii	i	iii

Ans. (3)

Sol. Hyderabad is warmer than Mumbai : Distance from sea

Snowfall in Himalayas : Altitude

North western plain gets rainfall in winter : Western Depression

Rainfall in summer : Mango Shower

177. Which one of the following bio-reserves of India is not included in the world network of bioreserve?

(1) Sunderbhan (2) Gulf of Mannar (3) Nanda Devi (4) Silent Valley

Ans. (4)

Sol. Silent Valley is a national Park it is located in the Nilgiri Hills.

178. Highest Annual Growth Rate in India was recorded in these decades

(1) 1981, 1971, 1991 (2) 1991, 2001, 1971 (3) 1971, 2001, 1991 (4) 1961, 1971, 1981

Ans. (1)

Sol. Highest Annual Growth Rate in India was recorded in 1981, 1971, 1991

179. Which of these is not related to Conservation of Resources?

(1) The club of Rome advocated resources conservation for the first time in a more systematic way in 1968.

(2) Brundtland Commission Report, 1987 introduced the concept of "Sustainable Development".

(3) E.F Schumacher is the author of the book "Small is Beautiful".

(4) Earth Summit was held in New York in 1997.

Ans. (4)

Sol. Earth Summit is not related with conservation of resources.

180. With reference to Indian agriculture, which of the following statements is not correct?

(1) India is the largest producer as well as the consumer of pulses in the world.

(2) India is the second largest producer of rice in the world after China

(3) Tea is an important beverage crop introduced in India initially by the Persians.

(4) Groundnut is a kharif crop and accounts for about half of the major oil seeds produced in the country.

Ans. (3)

Sol. Chinese's introduced tea in India

181. In which of these following industries, limestone is not used?

(1) Cement industry. (2) Iron and Steel industry.

(3) Oil refinery industry. (4) None of the above.

Ans. (3)

Sol. Limestone is not connected with Oil Refinery Industry .

182. Find the wrongly matched.

(1) Ferrous mineral - Iron ore (2) Non-ferrous mineral - Mica

(3) Non-Metallic mineral - Limestone (4) Fuel minerals - Coal

Ans. (2)

Sol. Mica is a ferrous Mineral

183. Identify the non-fibre crop

(1) Hemp (2) Cotton (3) Natural Silk (4) Rubber

Ans. (4)

Sol. Rubber is not a Fiber crop.

184. The south-east Trade winds are attracted towards the Indian sub-continent in the month of June due to …

(1) the effect of the westerlies

(2) the effect of Somaliya current.

(3) the presence of low atmospheric pressure over North-west India.

(4) None of the above

Ans. (3)

Sol. Due to the pressure of low atmospheric pressure over North-West India.

185. Consider the following two statements on power sharing and select the answer using the codes given below.

(a) Power sharing is good for democracy

(b) It helps to reduce the possibility of conflicts between social groups.

Which of these statements are true and false?

(1) Both a and b are true (2) Both a and b are false (3) a is true but b is false (4) a is false but b is true

Ans. (1)

Sol. Both statements are true. Power sharing is good for democracy as well as it reduces the possibility of conflicts between social group .

186. Match the following countries and the path democracy ahs taken in that country

Country	Path to Democracy
(a) Nepal	(i) End of One party Rule
(b) Chile	(ii) King agreed to give up his powers
(c) Ghana	(iii) End of Military Dictatorship
(d) Poland	(iv) Freedom from British Colonial Rule

Codes:

	a	b	c	d
(1)	(i)	(ii)	(iv)	(iii)
(2)	(ii)	(iii)	(iv)	(i)
(3)	(iii)	(ii)	(i)	(iv)
(4)	(iv)	(i)	(iii)	(ii)

Ans. (2)

Sol. a and b are correct in context with political parties and pressure groups.

1. Nepal : King agree to give up his powers
2. Chile : End of Military dictatorship
3. Ghana : Freedom from British Colonial Rule
4. Poland :End of One party rule

187. Consider the following statements about pressure groups and parties

a) Pressure groups are the organized expression of the interests and views of specific social sections.

b) Pressure groups take positions on political issues

c) All pressure groups are political parties.

Which of the statements given above are correct?

(1) a, b, and c (2) a and b (3) b and c (4) a and c

Ans. (2)

Sol. All Pressure groups are not included in political parties

188. Match the ministry with the news that the ministry may have released

A	B
(a) A new policy is being made to increase the jute exports from the country.	(i) Ministry of Defence
(b) Telephone services will be made more accessible to rural areas	(ii) Ministry of Health
(c) The price of rice and wheat sold under the public distribution system will got down.	(iii) Minstry of agriculture Food and Public
(d) A pulse polio campaign will be launched	(iv) Ministry of Commerce and Industry.
(e) The allowances of the soldiers posted on high altitudes will be increased.	(v) Ministry of Communications and Information technology.

Codes:

	a	b	c	d	e
(1)	i	iii	ii	iv	v
(2)	iv	v	iii	ii	i
(3)	iii	v	ii	i	iv
(4)	ii	v	iii	iv	i

Ans. (2)

Sol. A new Policy is being made to increase the jute exports from the country : Ministry of commerce and industry

Telephonic services will be made more accessible to rural areas : Ministry of communication and information technology

The price of rice and wheat sold under the Public Distribution system will go down: Minstry of agriculture Food and Public

A pulse polio campaign will be launched. : Ministry of Health

The allowances of the soldiers posted on high altitudes will be increased : Ministry of defense

189. Find out the right which is not under the Indian Constitution?

(1) Freedom of Speech and Expression. (2) Move freely through the Country

(3) Practice any profession (4) None of the above

Ans. (4)

Sol. All are Fundamental right and all describes in Constitution

190. Find out the wrong statement about National Human Rights Commission.

(1) This is an independent Commission established by law in 1993

(2) Present Chairman for National Human Rights Commission is Justice Jeevan Reddy

(3) Like National Human Rights Commission, there are State Human Rights Commissions in 14 states of the country.

(4) There is no fee or any formal procedure to approach the National Human rights commission.

Ans. (2)

Sol. Present Chairman for National Human Rights Commission is Rajesh Kishore

191. Find out the subject which is under concurrent list?

(1) Police (2) Communication (3) Marriages and Divorce (4) None of the above

Ans. (3)

Sol. Marriages and Divorces are comes under Concurrent List

192. A struggle known as "Bolivia's water war" took place in ……. city.

(1) Cochabamba (2) Lapaz (3) Trinidad (4) Montero

Ans. (1)

Sol. A Struggle Known as " Bolivia's water war took place in Cochabamba.

193. Consider the following statements.

(i) Equitable allocation of resources. (ii) Generation of employment.

(iii) Tax concession to big corporates (iv) Universalization of public distribution.

Which of the factors given above can bring inclusive growth in our country?

(1) (i), (ii), (iii) (2) (i), (ii), (iv) (3) (i), (iii), (iv) (4) (ii), (iii), (iv)

Ans. (2)

Sol. Generation of employment, Tax concession to big corporate and Universalisation of Public distribution bring inclusive growth in our country

194. Which of the following is wrong related to Antyodaya Anna Yojana?

(1) Antyodaya Anna Yojana was launched in December 2000.

(2) 2 crore families have been covered under the antyodaya Anna Yojana

(3) Wheat is supplied at the rate of Rs.6 and rice at the rate of Rs. 7 under this scheme.

(4) None of the above

Ans. (3)

Sol. Option 3 is not related with AAY.

195. Find out the correct one related to under employment

(1) They do not want to work (2) They work in a lazy manner.

(3) They work less than what they are capable of doing (4) They are not paid for their work

Ans. (3)

Sol. Under employment related to they work less than what they are capable for doing

196. Find out the wrong one about Secondary sector.

(1) Secondary sector is also called as industrial sector

(2) Manufacturing of bricks and sugar come under secondary sector

(3) The share of secondary sector is more in current GDP in India

(4) None of the above

Ans. (4)

Sol. All Options are related with Secondary sector are correct.

197. Which among the following is money function?

(1) Medium of exchange (2) Unit of account (3) Store of value (4) All the above

Ans. (4)

Sol. All function are related with money

198. Consider the following statements about Globalisation.

a) The most common route for investment by MNC's in countries around the world is to buy existing local companies.

b) Investment made by Multinational companies is called foreign investment.

c) Cargill Foods, an American company purchased and Indian company called Parakh Foods.

d) Ford Motors is one of the biggest German Automobile manufacturer.

Which of the given statements are True?

(1) a, c, d (2) a, b, c (3) b, c, d (4) a, b, c, d

Ans. (2)

Sol. Ford Motor is an American Multinational Automobile manufacture to.

199. In which year, did the Bengal Famine occur, which was responsible for the death of 30 lakh people in Bengal Province?

(1) 1933 (2) 1943 (3) 1953 (4) 1963

Ans. (2)

Sol. In 1943 Bengal Famine occurs which is responsible for the death of 20 lakh people in Bengal

200. Find out the wrong one related to Annapurna Scheme (APS)

(1) Introduced in the year 2000.

(2) A scheme meant for indigent senior citizens.

(3) 10 kg of food grains are supplied freely under the scheme

(4) none of the above.

Ans. (4)

Sol. All statements are correct in context with AAY