

KARUNYA ENTRANCE EXAMINATION (KEE)-
MODEL QUESTION PAPER

MATHEMATICS

(Common to all candidates)

1. If I is the unit matrix of order n , where $k \neq 0$ is a constant, then $\text{adj}(KI) =$ _____.

- a) $K^n(\text{adj } I)$ b) $K^{n-1}(\text{adj } I)$ c) $K^2(\text{adj } I)$ d) $K(\text{adj } I)$

2. The equation $\begin{vmatrix} 2x & 0 & 0 \\ x+2 & x+1 & 0 \\ x+3 & x+4 & x^2+1 \end{vmatrix} = 0$ has the solution

- a) $x = -1, -2, -3$ b) $x = 0, -1, \pm i$
c) $x = -2, -3, -4$ d) $x = 0, 0, 0$

3. If $\rho(A) = \rho(A, B)$ then the system is

- a) consistent and has infinitely many solution
b) consistent and has a unique solution.
c) consistent
d) inconsistent

4. The value of $\begin{vmatrix} \cos \frac{\pi}{12} + i \sin \frac{\pi}{12} & 0 & 0 \\ 0 & \cos \frac{\pi}{6} + i \sin \frac{\pi}{6} & 0 \\ 0 & 0 & \cos \frac{\pi}{8} + i \sin \frac{\pi}{8} \end{vmatrix}^2$ is _____.

- a) $\frac{-1-i}{\sqrt{2}}$ b) $\frac{1+i}{\sqrt{2}}$ c) $\frac{-1+i}{\sqrt{2}}$ d) $\frac{1-i}{\sqrt{2}}$

5. If A is a square matrix then $AA' + A'A$ is a

- a) unit matrix b) null matrix
c) symmetric matrix d) skew symmetric matrix

6. If $\vec{a}$ and $\vec{b}$ are unit vectors having opposite directions, which one of the following is true?

- a) $\vec{a} \cdot \vec{b} = 1$ b) $\vec{a} \cdot \vec{b} = 0$ c) $\vec{a} \times \vec{b} = \vec{0}$ d) $|\vec{a}| |\vec{b}| = 2$

7. If $\vec{a}$ and $\vec{b}$ are two unit vectors and θ is the angle between them, then $(\vec{a} - \vec{b})$ is a unit vector if
- a) $\theta = \frac{\pi}{4}$ b) $\theta = \frac{\pi}{2}$ c) $\theta = \frac{\pi}{3}$ d) $\theta = \frac{2\pi}{3}$
8. The angle between the planes $x + y + z = 10$ and z -axis is _____.
- a) $\sin^{-1}\left(\frac{2}{\sqrt{3}}\right)$ b) $\sin^{-1}\left(\frac{1}{\sqrt{3}}\right)$ c) $\sin^{-1}(2)$ d) $\sin^{-1}(\sqrt{3})$
9. If $\vec{a}$ is any vector, the value of $|\vec{a} \times \vec{i}|^2 + |\vec{a} \times \vec{j}|^2 + |\vec{a} \times \vec{k}|^2$ is _____.
- a) a^2 b) $2a^2$ c) $3a^2$ d) 0
10. If $|z - z_1| = |z - z_2|$ then the locus of z is
- a) a circle with centre at the origin
b) a circle with centre at z_1
c) a straight line passing through the origin
d) is a perpendicular bisector of the line joining z_1 and z_2 .
11. If $\frac{1+x}{1-x} = \cos 2\theta + i \sin 2\theta$, then x is equal to
- a) $i \tan \theta$ b) $i \tan 2\theta$ c) $i \cot \theta$ d) $i \cot 2\theta$
12. Which of the following is incorrect?
- a) $|z_1 + z_2| \leq |z_1| + |z_2|$ b) $|z_1 + z_2| \geq |z_1| + |z_2|$
c) $|z_1 - z_2| \leq |z_1| + |z_2|$ d) $|z_1 - z_2| \geq |z_1| - |z_2|$
13. If n is a positive integer greater than one and $a = \cos \frac{2\pi}{n} + i \sin \frac{2\pi}{n}$ then $1 + a + a^2 + \dots + a^{n-1} =$ _____.
- a) 0 b) 1 c) -1 d) n

14. The point of contact of the tangent $y = mx + c$ and the parabola $y^2 = 4ax$ is
- a) $\left(\frac{a}{m^2}, \frac{2a}{m}\right)$ b) $\left(\frac{2a}{m^2}, \frac{a}{m}\right)$ c) $\left(\frac{a}{m}, \frac{2a}{m^2}\right)$ d) $\left(\frac{-a}{m^2}, \frac{-2a}{m}\right)$
15. The curve with parametric equation $x = 1 + 4 \cos\theta$, $y = 2 + 3 \sin\theta$ is _____.
- a) a circle b) a parabola c) an ellipse d) a hyperbola
16. The intercepts cut off by the plane $2x + y - z = 5$ with the axes is
- a) $\frac{2}{5}, \frac{1}{5}, \frac{-1}{5}$ b) $\frac{5}{2}, \frac{1}{5}, -5$ c) 2, 1, -1 d) -2, -1, 1
17. The condition that the line $lx + my + n = 0$ may be a normal to the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$ is
- a) $al^3 + 2alm^2 + m^2n = 0$ b) $\frac{a^2}{l^2} + \frac{b^2}{m^2} = \frac{(a^2 + b^2)^2}{n^2}$
- c) $\frac{a^2}{l^2} + \frac{b^2}{m^2} = \frac{(a^2 - b^2)^2}{n^2}$ d) $\frac{a^2}{l^2} - \frac{b^2}{m^2} = \frac{(a^2 + b^2)^2}{n^2}$
18. The hyperbola with foci at (0, -1), (0, 3) and one vertex at the origin is _____.
- a) $3y^2 - x^2 - 6y = 0$ b) $3x^2 - y^2 + 6x = 0$
- c) $3x^2 - y^2 + 6y = 0$ d) $3x^2 - y^2 - 6x = 0$
19. $x = x_0$ is a root of even order for the equation $f'(x) = 0$ then $x = x_0$ is a
- a) maximum point b) minimum point
- c) inflexion point d) critical point
20. The area of the largest rectangle that can be inscribed in the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is _____.
- a) ab b) a^2b^2 c) $2ab$ d) $\sqrt{2}ab$

21. If the length of the diagonal of a square is increasing at the rate of 0.2 m / sec , what is the rate of increase of its area when the side is $\frac{30}{\sqrt{2}} \text{ cm}$?
- a) $3 \text{ cm}^2 / \text{sec}$ b) $6\sqrt{2} \text{ cm}^2 / \text{sec}$ c) $3\sqrt{2} \text{ cm}^2 / \text{sec}$ d) $6 \text{ cm}^2 / \text{sec}$
22. In the law of mean, the value of ' θ ' satisfies the condition
- a) $\theta > 0$ b) $\theta < 0$ c) $\theta < 1$ d) $0 < \theta < 1$
23. The curve $y^2 = (x - a)(x - b)^2$, $a, b > 0$ and $a > b$ does not exist for
- a) $x \geq a$ b) $x = a$ c) $b < x < a$ d) $x = a$
24. If there is an error of 0.01 cm in the diameter of a sphere when its radius is 5 cm , then the percentage error in its surface area is
- a) 0.1% b) 0.2% c) 0.02% d) 2.0%
25. In which region the curve $y^2(a + x) = x^2(3a - x)$ does not lie?
- a) $x > 0$ b) $x \leq -a$ and $x > 3a$
c) $-a < x < 3a$ d) $0 < x < 3a$
26. The curve $x^3 + y^3 = 3axy$ is symmetrical about _____.
- a) $x = 0$ b) $y = 0$ c) both axis d) $y = x$
27. $\int_0^{\infty} x^6 e^{-x/2} dx =$ _____
- a) $\frac{\angle 6}{2^7}$ b) $\frac{\angle 6}{2^6}$ c) $2^6 \angle 6$ d) $2^7 \angle 6$
28. $\int_0^a f(x) dx + \int_0^a f(2a - x) dx =$ _____.
- a) $\int_0^a f(x) dx$ b) $2 \int_0^a f(x) dx$ c) $\int_0^{2a} f(x) dx$ d) $\int_0^{2a} f(a - x) dx$

29. $\int_{-1}^0 |x+1| dx$ is
- a) $-\frac{1}{2}$ b) $\frac{1}{2}$ c) 2 d) -2
30. The volume of the solid obtained when the area between the line joining the points (0, 0) and (2, 3) and x – axis is rotated about x – axis is _____.
- a) 2π b) 4π c) 8π d) 6π
31. The area between the parabola $y^2 = 16x$ and the line $y = x$ is _____.
- a) $\frac{442}{3}$ b) $\frac{421}{3}$ c) $\frac{128}{3}$ d) $\frac{256}{3}$
32. The differential equation formed by eliminating A and B from the relation $y = e^x (A \cos 3x + B \sin 3x)$ is
- a) $y'' - 2y' - 10y = 0$ b) $y'' - 2y' + 10y = 0$
c) $y'' + 2y' + 10y = 0$ d) $y'' + 2y' - 10y = 0$
33. If $y = e^{-4x} (A \cos 3x + B \sin 3x)$ then
- a) $(D^2 - D - 12)y = 0$ b) $(D^2 + 8D + 25)y = \cos 3x + \sin 3x$
c) $(D^2 + 8D + 25)y = 0$ d) $(D^2 - 8D + 25)y = e^{-4x}$
34. The differential equation satisfied by all the straight lines in xy plane is _____.
- a) $\frac{dy}{dx} = a$ constant b) $\frac{d^2y}{dx^2} = 0$ c) $y + \frac{dy}{dx} = 0$ d) $\frac{d^2y}{dx^2} + y = 0$
35. The particular integral of $\frac{d^2y}{dx^2} + 9y = 1 + \sin 3x$ is _____.
- a) $-\frac{x}{6} \cos 3x + \frac{1}{9}$ b) $\frac{x}{6} \sin 3x$ c) $-\frac{x}{6} \cos 3x + \frac{1}{10}$ d) $\frac{x}{6} \cos 3x + 9$
36. If $x \frac{dy}{dx} = y (\log y - \log x + 1)$ then the solution of the equation is
- a) $x \log\left(\frac{y}{x}\right) = cy$ b) $y \log\left(\frac{x}{y}\right) = cx$ c) $\log\left(\frac{x}{y}\right) = cy$ d) $\log\left(\frac{y}{x}\right) = cx$

37. An element of order 2 in the group $(C - \{0\}, \bullet)$ is _____.
- a) $1 - i$ b) $2 + i$ c) $e^{i\pi}$ d) $\frac{2-i}{\sqrt{3}}$
38. The set $G = \{1, \omega, \omega^2\}$ of all cube roots of unity forms an abelian group with respect to multiplication. Then the inverse of $\frac{1+\omega+\omega^2-\omega^7}{1+\omega}$ is _____.
- a) $-(1+\omega^2)$ b) $-(1+\omega)$ c) ω d) $-\omega$
39. If a, b, c are any three elements of the group $(G, *)$ and $(a * b) * x = c$ then $x =$ _____.
- a) $c * (a^{-1} * b^{-1})$ b) $c * (b^{-1} * a^{-1})$ c) $(a^{-1} * b^{-1}) * c$ d) $(b^{-1} * a^{-1}) * c$
40. In congruence modulo 5, $\{x \in \mathbb{Z} / x = 5k + 4, k \in \mathbb{Z}\}$ represents
- a) $[0]$ b) $[5]$ c) $[4]$ d) $[2]$
41. If $f(x) = k \sin \frac{\pi x}{5}, 0 \leq x \leq 5$ is a p.d.f. then the value of $k =$ _____.
- a) $\frac{2\pi}{5}$ b) $\frac{3\pi}{10}$ c) $\frac{\pi}{10}$ d) $\frac{\pi}{5}$
42. In a Poisson distribution if standard deviation is $\sqrt{2}$ then $P(X \geq 1)$ is _____.
- a) $1 - e^{-2}$ b) $1 + e$ c) $1 - e^2$ d) $1 - e^{-1}$
43. A die is thrown 100 times. If getting an odd number is a success, then the variance of the number of successes is _____.
- a. 50 b) 40 c) 25 d) 20
44. If 2 cards are drawn from a well shuffled pack of 52 cards, the probability that they are of the same colours with replacement is
- a) $\frac{1}{2}$ b) $\frac{25}{51}$ c) $\frac{26}{51}$ d) $\frac{25}{102}$
45. The binomial distribution have the mean
- a) n^2p b) np c) npq d) np^2

PHYSICS

(Common to all candidates)

46. Three capacitors each of capacity $4\ \mu\text{F}$ are to be connected in such a way that, the effective capacitance is $6\ \mu\text{F}$. This can be done by
- connecting all of them in series
 - connecting them in parallel
 - connecting two in series and one in parallel
 - connecting two in parallel and one in series
47. Relation between charge density and radius is _____
- directly proportional
 - inversely proportional
 - equal
 - no relation
48. The value of electrical resistance for a given conductor is _____
- $\frac{mL}{nAe^2\tau}$
 - $\frac{mA}{ne^2\tau L}$
 - $\frac{m}{ne^2\tau}$
 - $\frac{ne^2\tau}{m}$
49. Two electric bulbs whose resistances are in the ratio of $1 : 2$ are connected in parallel to a constant voltage source. The powers dissipated in them have the ratio
- $1 : 2$
 - $1 : 1$
 - $2 : 1$
 - $1 : 4$
50. To send 10% of the main current through a moving coil galvanometer of resistance 99 ohm the shunt required is
- 10 ohm
 - 9.9 ohm
 - 9 ohm
 - 11 ohm
51. 1A of current produces a deflection of 30° in a tangent galvanometer then its reduction factor is
- 1.414
 - 0.707
 - 1.732
 - $\frac{1}{\sqrt{3}}$
52. In a LCR series circuit, the AC voltage across R, L and C come out as 10V, 10V and 20V respectively. The voltage across the entire combination will be
- 30 V
 - $10\sqrt{3}\ \text{V}$
 - 20V
 - $10\sqrt{2}\ \text{V}$

53. Keeping all other factors same, the number of turns of a coil is doubled. The magnetic flux linked with the coil is
- a) doubled b) halved c) trebled d) quadrupled
54. A monochromatic light of frequency 3×10^8 MHz propagates through a medium of refractive index 1.55. Its wavelength in the medium is
- a) 645 nm b) 6.45×10^{-8} m c) 6450 nm d) 6.45×10^{-9} m
55. Two small angled prisms of refractive indices 1.6 and 1.8 respectively produce same deviation for an incident ray of light. The ratio of the angles of prism is
- a) 0.75 b) 0.89 c) 1.25 d) 1.33
56. In He – Ne laser, He atoms help in
- a) achieving population inversion b) produce laser transition
c) produce radiation less transition d) produce high pressure
57. The ratio of the radii of the first three Bohr orbit is
- a) $1 : \frac{1}{2} : \frac{1}{3}$ b) 1 : 2 : 3 c) 1 : 4 : 9 d) 1 : 8 : 27
58. If the mass of the moving particle is equal to three times of its rest mass, then the speed of the particle is _____
- a) $3 \times 10^8 \text{ ms}^{-1}$ b) $0.943 \times 10^8 \text{ ms}^{-1}$ c) $2.829 \times 10^8 \text{ ms}^{-1}$ d) $2 \times 10^8 \text{ ms}^{-1}$
59. Thermo nuclear reactions are responsible for energy production
- a) at the centre of the earth b) inside the stars
c) in volcanoes d) in the modern space ships

60. The current gain of a transistor in common base mode is 0.9. In order to change the emitter current by 5 mA, the required change in collector current will be
- a) 4 mA b) 4.5 mA c) 5.6 mA d) 0 mA
61. Range of frequencies allotted for commercial FM radio broadcast is
- a) 88 to 108 MHz b) 88 to 108 KHz c) 8 to 88 MHz d) 88 to 108 GHz
62. A capacitor of capacitance $1\ \mu\text{F}$ is filled with two dielectrics of dielectric constant 4 and 6. The new capacitance is
- a) $10\ \mu\text{F}$ b) $5\ \mu\text{F}$ c) $4\ \mu\text{F}$ d) $7\ \mu\text{F}$
63. A beam of light consisting of two wave length $6500\ \text{\AA}$ and $5200\ \text{\AA}$ is used to obtain interference fringes in young's double slit experiment. Suppose m^{th} bright fringe due to $6500\ \text{\AA}$ coincides with n^{th} bright fringe due to $5200\ \text{\AA}$ at a maximum distance from the central maximum. Then
- a) $m = 4 ; n = 5$ b) $m = 10 ; n = 8$ c) $m = 8 ; n = 10$ d) $m = 5 ; n = 4$
64. If Binding Energy per nucleon in ${}^7_3\text{Li}$ and ${}^4_2\text{He}$ nuclei are 5.60 MeV and 7.06 MeV respectively, then in the reaction $P + {}^7_3\text{Li} \rightarrow 2{}^4_2\text{He}$ energy of proton must be
- a) 1.46 MeV b) 17.28 MeV c) 28.24 MeV d) 39.2 MeV
65. If side band power is 125 W and that of carrier is 300 W, the power of AM will be
- a) 125 W b) 300 W c) 425 W d) 550 W

CHEMISTRY

(Common to all candidates)

66. Which of the following has the largest de-Broglie wavelength, provided all have equal velocity?
- a) carbon dioxide molecule b) electron
c) proton d) ammonia molecule
67. By how many times was Mulliken values higher than Pauling values?
- a) 28 b) 2.6 c) 8.2 d) 2.8
68. A compound of phosphorus has the following characteristics (i) it is a white waxy substance (ii) it has garlic odour (iii) it dissolves in cold water to form a dibasic acid (iv) it produces PH_3 with hot water. The compound is _____.
- a) P_4O_{10} b) PCl_3 c) P_4O_6 d) PCl_5
69. Elements exhibiting + 8 oxidation state are
- a) Ru and Os b) Ru and Mo c) Rh and Os d) Rh and Ru
70. The oxidation state of platinum in the complex $[\text{PtCl}_2(\text{en})]$ is _____.
- a) + 2 b) + 3 c) + 4 d) 0
71. On bombarding ${}^{14}_7\text{N}$ with an alpha particle, the nuclei of the product formed, after the release of a proton will be _____.
- a) ${}^{17}_9\text{F}$ b) ${}^{18}_9\text{F}$ c) ${}^{18}_8\text{O}$ d) ${}^{17}_8\text{O}$
72. To get n-type doped semiconductor, impurity to be added to silicon should have the following number of valence electrons
- a) 2 b) 5 c) 3 d) 1

73. The final temperature of an engine whose initial temperature is 400 K and having 25 % efficiency is
- a) 300 K b) 200 K c) 400 K d) 450 K
74. The equilibrium constant K_p for the reaction $A \rightleftharpoons 2B$ is related to the degree of dissociation α and total pressure P is _____.
- a) $\frac{4\alpha^2 P}{1-\alpha^2}$ b) $\frac{4\alpha^2 P^2}{1-\alpha^2}$ c) $\frac{4\alpha^2 P^2}{1-\alpha}$ d) $\frac{4\alpha^2 P}{1-\alpha}$
75. The rate constant for the decomposition of H_2O_2 in aqueous solution is
- a) $k = \frac{2.303}{t} \log \frac{V_\alpha}{V_\alpha - V_t}$ b) $k = \frac{2.303}{t} \log \frac{V_o}{V_t}$
- c) $k = \frac{2.303}{t} \log \frac{V_\alpha}{V_t}$ d) $k = \frac{2.303}{t} \log \frac{V_\alpha - V_o}{V_\alpha - V_t}$
76. Which one of the following is correctly matched?
- a) emulsion – curd b) foam – mist
c) aerosol – smoke d) solid sol – cake
77. If 50 milliampere of current is passed through copper coulometer for 60 min; calculate the electrical charge input
- a) 18 coulombs b) 180 coulombs
c) 300 coulombs d) 1800 coulombs
78. Which of the following is optically active?
- a) 2-butanol b) deuterated ethanol c) lactic acid d) all of these

CHRISTIAN VALUES

(for Christian candidates only)

86. Who was the third son of Adam?
- a) Enoch b) Seth c) Ham d) Shem
87. After the division of the united Israel, who became the first king of the Southern kingdom?
- a) Solomon b) Rehoboam c) Jerobaom d) Gideon
88. How long was Lazarus' body laid in the tomb before Jesus raised him?
- a) 4 days b) 3 days c) 2 days d) 10 days
89. Of whom did Jesus say that he would deny him?
- a) Thomas b) John c) Peter d) Judas
90. According to Psalm 90 : 10, the allotted age of man now is
- a) 100 b) 70 c) 120 d) 90
91. What wicked act was Jacob's wife Rachel guilty of?
- a) of cheating her sister Leah b) of stealing her father's images
c) of being disobedient to Jacob d) none of the above
92. Why did the Lord reject Saul from being king of Israel?
- a) because he was not strong enough
b) because he was very old
c) because he was not willing to continue
d) because he had not obeyed the Lord's commandment

93. How many persons travelled in Noah's Ark?
- a) 8 b) 9 c) 7 d) 6
94. What is the meaning of Bethel?
- a) House of Saints b) House of Bread c) House of Gold d) House of God
95. What kind of clothes are we going to wear in heaven?
- a) Blue Robes b) White Robes
c) Multi coloured Robes d) Black Robes
96. Which book comes after Ephesians but before Colossians?
- a) Philippians b) Galatians c) Romans d) Titus
97. Which chapter in the Bible is known as the "Love chapter"?
- a) I John 3 b) I Corinthians 13 c) I Peter 3 d) II Corinthians 13
98. Who anointed David to be the King of Israel?
- a) Samuel b) Samson c) Shammai d) Shamgar
99. Whose family was saved during the great flood?
- a) Peter's Family b) Paul's Family c) David's Family d) Noah's Family
100. Who wrote the book of Acts?
- a) Luke b) John c) Mathew d) Mark

ETHICS

(for Non-Christian candidates only)

101. What is more important in life?
a) success b) ethics c) earning d) education
102. What is more important to make an organization successful?
a) investment b) leadership c) environment d) employment
103. What are the facts that determine our attitude?
a) environment b) experience c) education d) all the above
104. Differences of opinion in work places
a) always builds up relationship b) always hinders relationship
c) helps to learn the right from the wrong d) helpless in any sense
105. Parents may correct their children
a) at school level b) upto college level
c) until they are married d) all their life time.
106. Older people in the family
a) always a burden to children b) can be a blessing
c) always troublesome d) not helpful
107. Aged parents are sent to home for the aged; because
a) they do not know how to mingle with the new generation
b) lack of facility in the home
c) no time to take care for them
d) they failed to cultivate good values in their children
108. The aim of education is
a) preparing educationalists b) to develop the society
c) preparing engineers and doctors d) to provide job opportunity.

109. Often we avoid self-assessment; because
- a) it creates thoughts of failure
 - b) it is a waste of time
 - c) we prefer not to be reminded of our failures if any
 - d) we want to show ourselves as winners
110. The aim of the moral teaching is to
- a) make the poor to become rich
 - b) lead the people to paradise
 - c) fulfill the responsibility of a person
 - d) encourage the person to do right
111. The future generation shall turn to values
- a) when seeing the values in their ancestors
 - b) when they experience the up's and down's in their own life.
 - c) by reading its importance
 - d) to develop their facilities
112. The Reward follows
- a) after education
 - b) after hard work
 - c) after responsibility
 - d) after duty
113. The way to develop friendship is to
- a) help in their personal affairs
 - b) make them happy always
 - c) giving mutual respect with friendly help
 - d) to help financially
114. What are values?
- a) morals approved by the good people of the world
 - b) holding the precious metals
 - c) honoured by all people
 - d) the importance of luxurious life
115. You are working with a more efficient person. This is
- a) a threat to you position
 - b) creating inferiority complex
 - c) not good
 - d) an opportunity to grow

GENERAL APTITUDE

1. Find the missing number in the series 54, 49, ____, 39, 34

- a. 47 b. 44 c. 45 d. 46

2. SCD, TEF, UGH, ____, WKL

- a. CMN b. UJI c. VIJ d. IJT

3. Here are some words translated from an artificial language

moolokarn means blue sky

wilkospadi means bicycle race

moolowilko means blue bicycle

Which word could mean “racecar”

- a. wilkozwet b. spadiwilko
c. haploch d. spadivolo

Find the necessary part of the underlined word.

4. HARVEST

- a. autumn b. stockpile c. tractor d. crop

Find out the correct words for the following

5. ORDAIN

- a. arrange b. command c. contribute d. establish

6. ADAGE

- a. advice b. proverb c. enlargement d. advantage

7. BEHEST

- a. behaviour b. hold down c. hold up d. relieve

8. Two bus tickets from city A to B and three tickets from city A to C cost ₹. 77. But three tickets from city A to B and two tickets from city A to C cost ₹. 73. What are the fares for cities B and C from A?
- a. ₹. 4, & ₹. 23 b. ₹. 13, & ₹. 17
c. ₹. 15, & ₹. 14 d. ₹. 17, & ₹. 13
9. What least value must be assigned to * so that the number 197*5462 is divisible by 9?
- a. 2 b. 4 c. 6 d. 8
10. As 'wheel' is related to 'Vehicle' similarly 'clock' is related to what?
- a. Needle b. Nail
c. Stick d. None of these
11. Blueberries cost more than strawberries
Blueberries cost less than raspberries
Raspberries cost more than both strawberries and blueberries
If the first two statements are true, the third statement is
- a. True b. False c. Uncertain d. None
12. A, B, C, D, and E play a game of cards. A says to B, "If you give me three cards, you will have as many as E has and if I give you three cards, you will have as many as D has. "A and B together have 10 cards more than what D and E together have. If B has two cards more than what C has and the total number of cards be 133, how many cards does B have?
- a. 22 b. 23 c. 25 d. 35
13. King: Throne, Rider: ?
- a. Seat b. Horse c. Saddle d. Chair
14. Find the next letter of the following series
J, F, M, A, M, J, J _____
- a. J b. A c. S d. O
15. Find the first number in the series:19, 23, 29, 31
- a. 12 b. 15 c. 16 d. 17