(i) If A, G, H are arithmetic mean, geometric mean and harmonic mean respectively between a and b then A, G, H are in:

(a) G.P (b) H.P (c) A.P (d) None of these

(ii) If A is a singular matrix then adj A is:

(a) Non-singular (b) Singular (c) symmertric (d) None of these

(iii) If the sum of roots of equation $kx^2 + 2x + 6 = 0$ is 10 then k = _____.

(a) 5 (b) -5 (c) 10 (d) None of these

(iv) $4^{1-x} + 4^{1+x} = 10$ is called

(a) Reciprodcal equaiton (b) Exponential equation (c) Radical equation

(d) None of these

(v) Find the geomertic mean between -2i and 8i

(a) -4i (b) ±4 (c) ±8 (d) ±8i

(vi) $\left(\frac{3\pi}{8}\right)$ radians are equal to

(a) $67\frac{1}{2}$ (b) $72\frac{1}{2}$ (c) 75o (d) $65\frac{1}{2}$

(vii) If $\sin\theta = \frac{1}{2}$, then $\sin 3\theta$ is:

(a) $\frac{3}{2}$ (b) $\frac{\sqrt{3}}{2}$ (c) $\frac{1}{2}$ (d) 1

(viii) All the trigonomietic functions are:

(a 1- 1 (b) Continuous (c) Periodic (d) Non-periodic

(ix) $\sin^2\theta + \cos^2\theta =$ _____

(a) 1 (b) -1 (c) 0 (d) None of these

(ix) $\cos\left(\frac{3\pi}{2} + \theta\right) =$ _____

(a) $\cos\theta$ (b) $-\cos\theta$ (c) $\sin\theta$ (d) $-\sin\theta$

(x) $2\sin 45^\circ \cos 45^\circ =$ _____.

(a) -1 (b) $\frac{1}{2}$ (c) 1 (d) None of these

(xi) The period of $3\sec\frac{x}{2}$ is.

(a) π (b) 2π (c) 3π (d) 6π

(xii) A circle passing through the vertices of traingle is called:

(a) circum circle (b) in-circle (c)circum traingle (d) None of these

(xiii) In how many ways can a group of 2 girls and 2 boys be formed out of 7 girls and boys ?

(a) 217 (b) 121 (c) 63 (d) None of these

(xiv) $\cos\theta < 0$ and $\sin\theta > 0$ then which of the following can be the value of θ.

(a) $0 < \theta < \frac{\pi}{2}$ (b) $\frac{\pi}{2} < \theta < \pi$ (c) $\pi < \theta < \frac{3\pi}{2}$ (d) $\frac{3\pi}{2} < \theta < 2\pi$

(xv) Let A be a matrix of 2 x 2 order and B is its adjoint matrix. If |B| = 25, then |A| = ___

(a) 5 (b) -5 (c) 25 (d) None of these

(xvi) If the sum of roots of equation $kx^2 + 2x + 6 = 0$ is 10 then k = _____

(a) 5 (b) -5 (c) 10 (d) None of these

(xvii) The artithmetic mean between $\sqrt{5}$ and $5\sqrt{5}$ is:

(a) 5 (b) -5 (c) $3\sqrt{5}$ (d) None of these

(xvii) $i^{32} + i^{33} + i^{34} + i^{35} =$ _____ $(i = \sqrt{-1})$

(a) (1, 0) (b) (0, 0) (c) (0, 1) (d) (-1, 0)