



Level:
Paper:
Time
Allowed:

Matric
Mathematics - II (248)
03 Hours

Semester:
Maximum Marks:
Pass Marks:

Spring 2019
100
40

Note: ATTEMPT FIVE QUESTIONS. ALL CARRY EQUAL MARKS.

Q.No.1	<p>Fill in the blanks</p> <p>i) A surd is an _____ number that contains radical signs.</p> <p>ii) If $P(x) = x^3 - a^3$, then $P(a) = \underline{\hspace{2cm}}$.</p> <p>iii) There are _____ ways to find H.C.F.</p> <p>iv) If $m-1 = n$ then $m = \underline{\hspace{2cm}} n$.</p> <p>v) There are _____ ways to solve a quadratic equation.</p> <p>vi) A matrix which contains only one row is called _____ matrix.</p> <p>vii) Points lying on the circumference of the circle are _____.</p> <p>viii) Every triangle has _____ medians.</p> <p>ix) Area of the circle is _____.</p> <p>x) The points on the axes do not lie in any _____.</p>	20
Q.No.2	<p>a) If $\frac{1}{p} = \sqrt{10} + 3$ Then find $(p + \frac{1}{p})^2$ and $(p - \frac{1}{p})^2$</p> <p>b) Find the value of $a^3 - b^3$ where $a - b = 8$ and $ab = -4$</p>	20
Q.No.3	<p>a) If $P(x) = x^2 - Kx^2 + 3x + 5$ is divided by $x-1$, Find K if remainder is 8.</p> <p>b) Factorize: $x^9 + y^9$</p>	20
Q.No.4	<p>a) The product of two polynomials is $x^4 + 6x^3 - 3x^2 - 56x - 48$, and their H.C.F is $x^2 + 2x^2 - 11x - 12$. Find their L.C.M.</p> <p>b) Solve: $\sqrt{2x-1} - \sqrt{x-4} = 2$</p>	20
Q.No.5	<p>a) Solve by quadratic formula: $(x+4)(x-1) + (x+5)(x+2) = 6$</p> <p>b) Find two consecutive positive odd numbers whose difference of their multiplicative inverses is $\frac{2}{63}$.</p>	20
Q.No.6	<p>a) If $N = \begin{bmatrix} 3 & 4 \\ 7 & 5 \end{bmatrix}$ then find N^{-1}?</p> <p>b) Use Cramer's rule to solve the simultaneous equations. If not possible state why? $x - 3y = 5$ $2x - 5y = 9$</p>	20
Q.No.7	<p>a) The sum of two angles is 100° and the difference of their supplements is 100°. Find the measure of both angles.</p> <p>b) Find the volume of a sphere whose radius is 7cm.</p>	20
Q.No.8	<p>a) Define a circle and discuss its different parts.</p> <p>b) Find the area of the parallelogram whose length is 2m and width is 20 cm.</p>	20