Sample questions Mathematics

S. No.	Questions	Answer	Marks
1.	0.121212....= (i) $\frac{12}{101}$ (ii) $\frac{1212}{10000}$ (iii) $\frac{121}{999}$ (iv) $\frac{12}{99}$		1
2.	1.0000..... = (i) $\frac{1}{0.9999....}$ (ii) $\frac{10.000....}{9.9}$ (iii) $\frac{1.1111.....}{11.1111....}\times 11$ (iv) $.9+\frac{1}{9}$		1
3.	$x^2 > \lvert x \rvert$, if (i) $x > 0$ (ii) $-1 < x < 1$ (iii) $x < 0$ (iv) $x < -1$		1
4.	$x^2 - 3x + 2 < 0$ if (i) $x > 2$ (ii) $x < 1$ (iii) $0 < x < 1$ (iv) $1 < x < \frac{3}{2}$		1
5.	A circle through the intersection of $x^2 + y^2 = 2x$ & $2x = 1$ is (i) $x^2 + y^2 = 2$ (ii) $x^2 + y^2 + 4x - 3 = 0$ (iii) $2x^2 + 2y^2 - 4x - 1 = 0$ (iv) $x^2 + y^2 = 2x - 1$		1

S. No.	Questions	Answer	Marks
6.	$x-\alpha y=a$ & $x+\beta y=b$ are two lines and so $(x-\alpha y)(x+\beta y)=ab$ represents (i) a pair of straight lines (ii) a pair of lines if a=b=0 (iii) a pair of lines if ab=1 (iv) none of these		1
7.	The distance between $3x+4y=10$ & $3x+4y=20$ is (i)10 (ii) 2 (iii)5 (iv) $7\frac{1}{2}$		1
8.	The limit $\lim_{x\to\infty}(x^2+1)^{\frac{1}{x}}$ = (i) e (ii) 1 (iii) ∞ (iv) 0		1
9.	The limit $\lim_{x\to 0}(x+1)^{\frac{1}{x}}=$ (i) e (ii) 1 (iii) ∞ (iv) 0		1
10.	$\lim_{x\to 2}\frac{x^3-8}{x^2-4}=$ (i) ∞ (ii) 2 (iii) 3 (iv) 0		1