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Session-15-04-2023-shift-1-16-30

EE24BTECH11038 - MALAKALA BALA SUBRAHMANYA ARAVIND

16) The number of real roots of the equation x$|x| - 5|x+2| + 6 = 0$, is
   a) 5
   b) 6
   c) 4
   d) 3

17) Let the system of linear equations

$$-x + 2y - 9z = 7$$
$$-x + 3y + 7z = 9$$
$$-2x + y + 5z = 8$$
$$-3x + y + 13z = \lambda$$

   has a unique solution $x = \alpha, y = \beta, z = \gamma$. then the distance between the point (α, β, γ) from the plane 2x-2y+z=λ is
   a) 7
   b) 9
   c) 13
   d) 11

18) Let A_1 and A_2 be two arithmetic means and G_1, G_2, G_3 be three geometric means of the two distinct positive numbers . Then $G_1^4 + G_2^4 + G_3^4 + G_1^2 G_3^2$ is equal to
   a) $2(A_1 + A_2) G_1 G_3$
   b) $(A_1 + A_2)^2 G_1 G_3$
   c) $2(A_1 + A_2) G_1^2 G_3^2$
   d) $(A_1 + A_2) G_1^2 G_3^2$

19) The negation of $(p \vee q) \wedge (\sim p \vee q)$ is:
   a) $((\sim p \wedge q)) \wedge q$
   b) $\sim (p \vee q)$
   c) $p \vee q$
   d) $((\sim p \wedge q)) \vee p$

20) The total number of three-digit numbers, divisible by 3, which can be formed using the digits 1, 3, 5, 8, if repetition of digits is allowed, is

a) 21
b) 18
c) 20
d) 22