

Model Test Paper for B.Sc. (Hons.) Ag. 6-year programme.

(for entrance test)

Mathematics

Answer are Underlined

- 1) Between nearest two irrational numbers, always remains _____.
- A rational number
 - An irrational number
 - Infinite irrational number
 - Infinite rational number
- 2) The product of two prime number is always?
- Even
 - Odd
 - Composite
 - Prime
- 3) $2+4+6+8+\dots+100$
=?
- 20200
 - 20245
 - 10100
 - 12096
- 4) Find the smallest whole square number which is divisible by 10, 12, 15 and 18.
- 400
 - 625
 - 900
 - 1600
- 5) What is the nature of the equations:
 $3x + 5y = 8$ and $6x + 15y = 21$
- An unique solution
 - Infinite solution
 - No solution
 - None of above
- 6) Find the value of k, if the system has unique solution.
 $Kx - 3y = 5$ and $4x + 3y = -5$
- K=4
 - $K=-4$
 - $K \neq 4$
 - $K \neq -4$
- 7) Find the Solution of
 $|x - 2| = 10$
- 12,8
 - 12,8
 - 12,-8
 - 12,-8
- 8) Find the solution of the equations
 $x = 2y$ and $2x = y$
- (2,2)
 - (0,0)
 - (0,2)
 - (2,0)
- 9) The ratio of two numbers is 3:4, if we add 2 in first number then the new ration become 1:1, find the grater number.
- 12
 - 6
 - 10
 - 8
- 10) How many solution of the below equations:
 $2x - 2y = 8$ and $3x - 3y = 0$
- Unique solution
 - Infinite solution
 - No solution
 - None of above
- 11) Find the factor of $(x+y)^2 - 4x^2$
- $(3x + y)(y - x)$
 - $(y + 3x)(x + y)$
 - $(2x + y)(y + 2x)$
 - $(3x + y)(3x - y)$
- 12) Find the LCM of the polynomials:
 $(x - 2)(x - 3)^2$ and $(x - 3)^5(x - 6)^2$

- a) $(x-2)(x-3)^2(x-6)^2$
 b) $(x-2)^2(x-3)^2(x-6)^2$
 c) $(x-2)(x-3)^7(x-6)^2$
 d) $(x-2)(x-3)^5(x-6)^2$
- 13) Find the remainder when $x^{29} + 5x^{10} - 1$ is divided by $(x - 1)$
 a) 4
 b) 5
 c) 6
 d) 7
- 14) If the HCF of two number is 1, then find their LCM.
 a) 1
 b) $\frac{f(x).g(x)}{f(1).g(1)}$
 c) $f(1).g(1)$
 d) all of above
- 15) find the sum of 'sum and product' of the roots of equation:
 $5x^2 - 10x + 10 = 0$
 a) 10
 b) 5
 c) 4
 d) 0
- 16) The discriminate of the polynomial $2x^2 - 3x - 9$ is
 a) 29
 b) -63
 c) -10
 d) 81
- 17) Find the value of k if the roots of equation $kx^2 - 10x + 5 = 0$ are equal.
 a) 5
 b) 10
 c) -10
 d) 50
- 18) If the ratio of the roots of the equation $ax^2 + bx + c = 0$ is 2:3 then find the relation between a, b and c.
 a) $6b^2 = 35ac$
 b) $6b^2 = 25ac$
 c) $6b^2 = -5ac$
 d) None of above
- 19) Find the 20th term of the sequence: -2,-5,-8,-11,..... Is
 a) -57
 b) -59
 c) 0
 d) -55
- 20) In an AP the 60th term is 120 more than the 45th term then find the common ratio.
 a) 8
 b) 6
 c) 10
 d) 12
- 21) If the sum of n number is $3n^2 + 2n$, then find its first term.
 a) 10
 b) 15
 c) 1
 d) 5
- 22) Find the value of $\text{Sec}(90-A) \cdot \text{Sin}(90-A)$
 a) $\text{Sin}^2 A + \text{Cos}^2 A$
 b) $\text{Sec} A \cdot \text{Cos} A$
 c) $\text{Sec}^2 A + \text{Sin}^2 A$
 d) None of above
- 23) Find the value of $\text{Cos} 30^\circ \cdot \text{Sin} 60^\circ + \text{Cos} 60^\circ \cdot \text{Sin} 30^\circ$
 a) 0
 b) 1
 c) 2
 d) 4
- 24) If the length and shadow of a pole are equal, then find the angle of elevation of shadow to pole is:
 a) 45°
 b) 90°
 c) 0°
 d) None of above
- 25) The point (-13,-15) lies in the quadrant:
 a) 1st
 b) 2nd
 c) 3rd
 d) 4th
- 26) Find the distance between the two points are (2a,0) and (-2a,0) is:
 a) -2a
 b) 2a
 c) 8a
 d) 4a
- 27) Find a point on x-axis from the points (1,5) and (8,-2) are equidistance.
 a) (0, 3)
 b) (3, 0)
 c) (4, 0)
 d) (-3, 0)
- 28) If the diagonal and perimeter of a rectangle are 13m and 34m respectively then the area is:
 a) 80m
 b) 40m

- c) $60m$
d) $75m$
- 29) Find the Area of greatest square which is inscribe in a circle of radius 8cm.
a) 64 cm^2
b) 128 cm^2
c) 84 cm^2
d) 120 cm^2
- 30) Find the volume of a cone which has radius 10cm and height 7cm.
a) 1100cm^3
b) 2200cm^2
c) 2200cm^3
d) 1100cm^2
- 31) The average of 13 number is 68. If average of 1st 7 number is 63 and average of last 7 number is 70. Then 7th number is:
a) 84
b) 74
c) 65
d) 47
- 32) The mean of 12number is 50. When a new number is added the new average is 51. Find the added number.
a) 13
b) $\frac{63}{9}$
c) 51
d) None of above.
- 33) Two dice are thrown. Find the probability if sum of both dice are 10.
a) $\frac{1}{12}$
b) $\frac{1}{9}$
c) $\frac{5}{36}$
d) $\frac{1}{18}$
- 34) In a box of 150 blubs, 15 are waist. Find the probability of good blub.
a) $\frac{15}{24}$
b) $\frac{1}{10}$
c) $\frac{9}{10}$
d) $\frac{1}{18}$
- 35) 40° and 50° are called:
a) Complimentary angles
b) Supplementary angles
c) Adjacent angle
d) All of above
- 36) In a triangle ABC, P, Q, R are mid points of AB, BC and CA respectively. Now triangle PQR is similar to:
a) CQR
b) PRA
c) PBQ
d) All of above
- 37) How many minimum things (sides, angles) should to make a qudrilatral?
a) 4
b) $\frac{5}{6}$
c) 6
d) 7
- 38) Greatest chord of a circle is called:
a) Chord
b) Radius
c) Circumference
d) Diameter
- 39) In a cyclic parallelogram each of its angle be:
a) Equal
b) Unequal
c) All angles are acute
d) None of above
- 40) Angle in minor segment is:
a) Obtuse
b) Acute
c) Right angle
d) All of above

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