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

## *(for entrance test)*

# *Mathematics*

### *Question Paper*

1) **Between nearest two irrational numbers, always remains _____.**
   a) *A rational number*
   b) *An irrational number*
   c) *Infinite irrational number*
   d) *Infinite rational number*

2) **The product of two prime number is always?**
   a) *Even*
   b) *Odd*
   c) *Composite*
   d) *Prime*

3) **2+4+6+8+………………………..+100 =?**
   a) *20200*
   b) *20245*
   c) *10100*
   d) *12096*

4) **Find the smallest whole square number which is divisible by 10, 12, 15 and 18.**
   a) *400*
   b) *625*
   c) *900*
   d) *1600*

5) **What is the nature of the equations:**
   $3x + 5y = 8$ **and** $6x + 15y = 21$
   a) *An unique solution*
   b) *Infinite solution*
   c) *No solution*
   d) *None of above*

6) **Find the value of k, if the system has unique solution.**
   $Kx - 3y = 5$ **and** $4x + 3y = -5$

   a) *K=4*
   b) *K=-4*
   c) *K ≠4*
   d) *K ≠-4*

7) **Find the Solution of**
   *! x − 2! =10*
   a) *12,8*
   b) *-12,8*
   c) *12,-8*
   d) *-12,-8*

8) **Find the solution of the equations**
   *x = 2y and 2x = y*
   a) *(2,2)*
   b) *(0,0)*
   c) *(0,2)*
   d) *(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.**
   a) *12*
   b) *6*
   c) *10*
   d) *8*

10) **How many solution of the below equations:**
    $2x - 2y = 8$ **and** $3x - 3y = 0$
    a) *Unique solution*
    b) *Infinite solution*
    c) *No solution*
    d) *None of above*

11) **Find the factor of** $(x+y)^2 – 4x^2$
    a) *(3x + y)(y - x)*
    b) *(y + 3x)(x + y)*
    c) *(2x + y)(y + 2x)*
    d) *(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) $f(x).g(x)$
   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 $20^{th}$ term of the sequence: -2,-5,-8,-11,……………. Is**
   a) -57
   b) -59
   c) 0
   d) -55

20) **In an AP te $60^{th}$ term is 120 more than the $45^{th}$ term then find the common ratio.**

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 Sec(90-A) . Sin (90-A)**
   a) $Sin^2A + Cos^2A$
   b) $SecA . CosA$
   c) $Sec^2A + Sin^2A$
   d) None of above

23) **Find the value of $Cos\,30^0 . Sin60^0 + Cos60^0 . Sin30^0$**
   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) $45^0$
   b) $90^0$
   c) $0^0$
   d) None of above

25) **The point (-13,-15) lies in the quadrent:**
   a) $1^{st}$
   b) $2^{nd}$
   c) $3^{rd}$
   d) $4^{th}$

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 diognal and premeter 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 1$^{st}$ 7 number is 63 and average of last 7 number is 70. Then 7$^{th}$ 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) *63*
   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$^0$ and 50$^0$ 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) *5*
   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*