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Roll No. ....

222531

3rd Sem.  
Branch : Textile Design  
Sub.: Textile Mathematics

Time : 3 Hrs. M.M. : 60

#### SECTION-A

**Note: Multiple type Questions. All Questions are compulsory. (6x1=6)**

- Q.1 50% to 80 is  
a) 60                          b) 40  
c) 80                          d) 48
- Q.2 Value of  $\log_3 27$  is  
a) 1                            b) 2  
c) 3                            d) 4
- Q.3 Median of the series 2, 3, 7, 5, 6 is  
a) 2                            b) 5  
c) 6                            d) 10
- Q.4 Area of circle is  
a)  $\pi r$                         b)  $\pi r^2$   
c)  $2\pi r$                         d) None of these
- Q.5 Value of  ${}^5C_4$   
a) 5                            b) 10  
c) 15                            d) 20

- Q.6 The Value of  $\log_2 2$  is.
- 0
  - 1
  - 2
  - None of these

### SECTION-B

**Note:** Objective/Completion type questions. All questions are compulsory. **(6x1=6)**

- Q.7 Evaluate  $2 \log_4 64$ .
- Q.8 Write the formula to determine the surface area of cylinder.
- Q.9 Divide Rs. 800 in Ravi and Shyam in the ratio 3:2.
- Q.10 Write the formula to determine the surface area of trapezium.
- Q.11 If a fabric is having EPI 25 and warp count is 20'Ne. Calculate the warp cover factor of this fabric.
- Q.12 Find the area of rectangle if its length is 6cm and breadth is 4cm.

### SECTION-C

**Note:** Short answer type Questions. Attempt any eight questions out of ten Questions. **(8x4=32)**

- Q.13 Find mean proportion of 16 and 25.
- Q.14 In how many ways the letter in a word TEN can be arranged.
- Q.15 Differentiate between warp cover and weft cover factor.

- Q.16 Define short term and medium term variation.
- Q.17 Find the diagonal of the rectangle whose length is 25cm, and breadth is 10 cm.
- Q.18 Find the mean of the following data 12, 13, 11, 16, 19, 22, 23.
- Q.19 Find the value of X if  $\frac{x}{3!} + \frac{1}{4!} = \frac{1}{5!}$
- Q.20 Find the area of a sector of the circle with radius 5cm. and angle of the sector is 45 degree.
- Q.21 If 10% of x = 25% of y, then find x : y.
- Q.22 Find the median from the following data 5, 10, 15, 11, 18, 10, 3, 2, 6.

### SECTION-D

**Note:** Long answer questions. Attempt any two questions out of three Questions. **(2x8=16)**

- Q.23 Prove that  $\log 81/80 + \log 20/27 - \log 24/20 = \log 5/8$ .
- Q.24 Find the arithmetic mean for the following data

Marks obtained	5	10	15	20	25
No. of students	4	3	2	1	5

- Q.25 A plain fabric has following parameter  
 Warp : 26's x 28 EPI  
 Weft : 24's x 30 PPI  
 Calculate total cover factor of the fabric.