

- Q.29 Find the cost of fencing of a rectangular park whose length is 150m and breadth is 75 m at the rate of Rs12 per meter.
- Q.30 If area of square is  $81\text{cm}^2$  then find perimeter of square.
- Q.31 Differentiate between warp cover and weft cover factor.
- Q.32 Find the mean of the following data 12, 13, 11, 16, 19, 22, 23.
- Q.33 If 10% of  $x = 15\%$  of  $y$ , then find  $x:y$ .
- Q.34 Define short term and medium term variation with control chart.
- Q.35 Explain cover factor of a fabric.

#### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Find the arithmetic mean for the following data

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

- Q.37 Prove that  $\log \frac{21}{13} + \log \frac{20}{7} - \log \frac{5}{2} = \log \frac{24}{13}$
- Q.38 A plain Fabric has following parameters  
Warp : 26's X 28 EPI  
Weft : 24's X 30 PPI  
Calculate total cover factor of the fabric.

No. of Printed Pages : 4

182531/122531

Roll No. ....

### 3rd Sem / Textile Design Subject:- Textile Mathematics

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 The area of square is  
a) 4 x side                      b) side x side  
c) 2 x side                      d) none of these
- Q.2 Value of 4! is  
a) 0                                  b) 10  
c) 20                                d) 24
- Q.3 Circumference of circle is  
a)  $\pi r$                               b)  $\pi r^2$   
c)  $2\pi r$                             d) none of these
- Q.4 Mean of the series 2,4,6,8 is  
a) 4                                  b) 5  
c) 6                                  d) 8
- Q.5 Value of  $\log 10$  is  
a) 0                                  b) 1  
c) 10                                d) none of these

(40)

(4)

182531/122531

(1)

182531/122531

- Q.6 Simplest ratio of 5 :15 is  
 a) 1:3                                      b) 3:1  
 c) 2:4                                      d) 4:2
- Q.7 45% of 100 is  
 a) 45                                        b) 55  
 c) 145                                      d) 100
- Q.8 Value of  ${}^4C_4$   
 a) 0    b) 1  
 c) 4    d) none of these
- Q.9 The Mode of the series  
 7,5,2,5,3,7,7, is  
 a) 7    b) 5  
 c) 3    d) 2
- Q.10 If the cost of the one pencil is Rs 5 then cost of 15  
 pencil is  
 a) 45                                        b) 55  
 c) 75                                        d) 65

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Evaluate  $\log_3 9$ .
- Q.12 Find the mean of the first five positive integers.
- Q.13 Evaluate  $5! - 2!$ .
- Q.14 Define median.
- Q.15 Value of  ${}^nC_r$  is.

- Q.16 Write the formula to determine the surface area of cylinder.
- Q.17 If a ring bobbin has 3cm radius, find its circumference.
- Q.18 A mixing of cotton is made of two type of cotton A and B. The ratio of A and B is 2:3. If total mixing is 120kg. Find the weight of each type of cotton.
- Q.19 If a fabric is having EPI 30 and warp count is 25'Ne. Calculate the warp cover factor of this fabric.
- Q.20 Divide Rs 900 in Amit and sumit in the ratio 3:2.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Find the value of the x if  $\log(x+5) + \log 3 = \log 27$ .
- Q.22 Find the volume of the cylinder whose radius is 5cm and height is 20cm.
- Q.23 If 35% of x is 500 then find the value of x.
- Q.24 Find the area of trapezium if its parallel sides are 6m and 8m and height is 15cm.
- Q.25 Find the area of a sector of the circle with radius 5cm and angle of the sector is 45 degree.
- Q.26 Find mean proportion of 4 and 9.
- Q.27 If cost of 9 books is Rs 72, then find the cost of 5 books.
- Q.28 Find the diagonal of a rectangle whose length is 25cm and breadth is 10cm.