Q.33 If the mean of x + 1, x + 3, x +5, x +7, x +9 is 15 . Determine the mean of the last three observations

Q.34 Explain short term and medium term variation with control chart .

Q.35 Explain cover factors of a fabric .

SECTION-D

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

Q.36 Find arithmetic mean for the following data .

Marks Obtained	5	10	15	20	25
No. of student	4	3	2	6	1

Q.37 Prove that $\log \frac{16}{15} + \log \frac{5}{4} + \log 3 = \log 4$

Q.38 A plain fabric has following parameters :

Warp : 26's x 28 EPI

Weft : 24 's x 30 PPI

Calculater total cover factor of the fabric.

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 0 ! is
   a)   0   b)   -1
   c)   1   d)   2

Q.3 Circumference of a circle is
   a) $2\pi r$ b) $1/2\,\pi r^2$
   c) πr d) πr^2

Q.4 The median of the series 5,10,15,20,25,is
   a)   10   b)   20
   c)   15   d)   25

Q.5 The simplest ratio of 30:90 is
   a)   3 : 1   b)   10 : 9
   c)   1 : 3   d)   9 : 10

Q.6 Value of log 1
   a)   1   b)   0
   c)   -1   d)   None of these

Q.7 30% of 100 =

    a)   30   b)   40

    c)   100   d)   20

Q.8 Value of $^5C_1$

    a)   5   b)   1

    c)   4   d)   None of these

Q.9 The mode of the series 7 , 5 , 2 , 5 3 , 7 , 7 is

    a)   3   b)   2

    c)   5   d)   7

Q.10 If cost of the one pencil is Rs 5 than cost of 15 pencils is

    a)   Rs 75   b)   Rs 85

    c)   Rs 95   d)   Rs 65

SECTION-B

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

Q.11 Find the mean of the first five positive integers.

Q.12 Evaluate 4!-2!

Q.13 Evaluate $\log_3 27$

Q.14 Divide 900 in amit and sumit in the ratio 3 : 2

Q.15 Value of ^nc_r is _____

Q.16 Write the formula for perimeter of rectangle.

Q.17 Define median.

Q.18 Formula for arithmetic mean $(\bar{x})$.

Q.19 Write the formula for the surface area of cylinder.

Q.20 Find the area of a parallelogram if its base height are 4m and 6m respectively.

SECTION-C

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

Q.21 Find the value of x if $\frac{1}{4!} + \frac{1}{5!} = \frac{x}{6!}$

Q.22 Find the volume of the cylinder whose radius is 5cm and height is 20cm .

Q.23 If 35% of x=450 then find the value of x .

Q.24 if x : 3 = 9 : 27 find the value of x .

Q.25 Find area of a sector of a circle with radius 6cm and angle of the sector is 60 degree.

Q.26 Find curved and total surface area of a cylinder whose diameter is 20cm and height is 14 cm .

Q.27 if log x - log 2 = log 5 find the value of x .

Q.28 If cost of 8 books is Rs 800 then find the cost of 20 books .

Q.29 If 50 % of x = 40 % of y , then find x:y .

Q.30 Find mean proportion of 8 and 16 .

Q.31 The average of 20 observations is 30 and average of another 80 observations is 100 Find average of all observations .

Q.32 Find the cost of fencing a square park of length 80m at the rate of Rs 25 per meter .