Name: Devansh Shah

Roll No.: 1914078

Batch : B2

Q48)X is uniform distribution with mean 1 and variance 4/3. Find P(X < 0).

Ans)

Given mean = 1 ; Variance = 4/3

But, Mean = (b+a)/2 variance =

1 = (b+a)/2 4/3 =

b+a = 2 \_\_\_\_\_\_\_\_ ( 1 ) b – a = 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_( 2 )

Adding (1) and (2),

b+a = 2

+ b-a = 4

2b = 6

b = 3

Hence a = -1

∴f(x) = 1/(b – a) for a <= x <= b

= 1/4

For P(X < 0) =

=

= 0 +

= ¼ (0-(-1))

= **1/4**