**SESSION**

**JUL/AUG 2021**

**PROGRAM**

**BACHELOR OF COMPUTER APPLICATIONS (BCA)**

**SEMESTER**

**I**

**COURSE CODE & NAME**

**DCA1103 – BASIC MATHEMATICS**

**1a) It is known that in a sports club, there are 1000 registered members. 60% of members play Tennis, 50% of members play Cricket, 70% of members play Football, 20% of members play Tennis and Cricket, 40% of members play Cricket and Football and 30% of members play Football and Tennis. If someone claimed that 20% of members play all three sports, what is your opinion and why? Use inclusion and exclusion principle to provide your opinion)**

Its Half solved only

Buy Complete from our online store

<https://smuassignment.in/online-store/>

MUJ Fully solved assignment available for**session Jul/Aug 2021,**

Lowest price guarantee with quality.

Charges**INR 200 only per assignment.**For more information you can get via mail or Whats app also

Mail id is aapkieducation@gmail.com

Our website www.smuassignment.in

After mail, we will reply you instant or maximum

1 hour.

Otherwise you can also contact on our

whatsapp no 8791490301.

Contact no is +91 87-55555-879

**Ans**

Members playing tennis, P(T)= 60%

Members playing cricket, P(C)= 50%

Members playing football, P(F)= 70%

Members playing tennis and cricket, P(T^C)= 20%

**2 b) If for a right-angle triangle for the acne angle 0, sin θ = 12/13, find the value cos θ and tan θ and show that**

**sin^2 + cos^2 = 1**

**tan^2 + 1 = sec^2**

**Ans**

Given: $Sinθ⁡=\frac{12}{13}$

**2 c) Find the value of the constant a, for which, the following function f(x) is continuous**



**Ans**

**3a) Differentiate the following function with respect to the variable** $x$**.**

$$\begin{matrix}&y=\frac{e^{x}+e^{-x}}{e^{x}-e^{-x}}\\&y=\frac{e^{2x}+1}{e^{2x}-1}\\&\frac{dy}{dx}=\frac{\left(e^{2x}-1\right)2xe^{2x}-\left(e^{2x}+1\right)2xe^{2x}}{\left(e^{2x}-1\right)^{2}}\\&\frac{dy}{dx}=\frac{2xe^{2x}\left(e^{2x}-1-e^{2x}-1\right)}{\left(e^{2x}-1\right)^{2}}\\&\frac{dy}{dx}=\frac{-4xe^{2x}}{\left(e^{2x}-1\right)^{2}}\end{matrix}$$

**3.b) Evaluate the following definite integral ∫x/√(3 - x) + √x dx**

**Ans**

**4 a) The differential equation (2x ^ 2 + b \* y ^ 2) \* d \* x + cxydy can made exact by multiplying with integrating factor 1/(x ^ 2) Then find the relation between band c.**

**Ans**

Multiplying the differential equation by 1/x2, we get  $\left(2+\frac{by^{2}}{x^{2}}\right)dx+\frac{cy}{x}dy=0$
It is exact
So, $$

**4 b) Find one-fourth roots of unity**

X^4=1

X^2= +-1

X^2=1

**5 A) Solve the following system of equations by using the concept of matrices and determinants.**

**5x + 7y + 2 =0**

 **4x + 6y + 3 =0**

**Ans**

5x+7y+2=0⇒5x+7y=−2

4x+

**5b) Find whether the following series are convergent or divergent**

This is convergent series because denominator is always bigger than numerator so, it will be convergent series.

Sum of Sqrt(n/

**6a)Bag I contain 3 red and 4 black balls and Bag Il contain 4 red and 5 black balls. One ball is transferred from Bag I to Bag II and then a ball is drawn from Bag II. The ball so drawn is found to be red Find the probability that the transferred ball is black.**

Let

 **(b) The daily earning of a vendor for a period of 40 days are given. Calculate Standard Deviation and coefficient of variation,**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Daily earning | Days(f) | xi | (xi-mean)/9 | F1ui | Fiui2 |
| 118-126 | 3 | 122 | -3 | -9 | 27 |
| 127-135 | 8 | 131 | -2 | -16 | 32 |
| 136-144 | 9 | 140 | -1 | -9 | 9 |