Name: A. Manasa
H.No: 439-21
Date: 15/02/21

* solve $x\,dx + y\,dy + \frac{x\,dy - y\,dx}{x^2+y^2} = 0$

Sol: $\left[x - \frac{y}{x^2+y^2}\right]dx + \left[y + \frac{x}{x^2+y^2}\right]dy = 0$

Here $M = x - \frac{y}{x^2+y^2} \quad N = y + \frac{x}{x^2+y^2}$

$$= \frac{x^3 + xy^2 - y}{x^2+y^2} \qquad = \frac{x^2y + y^3 + x}{x^2+y^2}$$

$\Rightarrow \frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$

$$\int M\,dx = \int\left[x - \frac{y}{x^2+y^2}\right]dx$$

$$= \int x\,dx - y\int \frac{dx}{x^2+y^2}$$

$$= \frac{x^2}{2} - y\,\frac{1}{y}\tan^{-1}\frac{x}{y} \longrightarrow (1)$$

$$\int N\,dy = \int\left[y + \frac{x}{x^2+y^2}\right]dy$$

$$= \int y\,dy = \frac{y^2}{2} \longrightarrow (2)$$

From eq(1) & eq(2)

$$x^2 - 2\tan^{-1}\frac{x}{y} + y^2 = 2C //$$

Aggarala

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Academic Year 2020-21.
Student Seminar - (2)

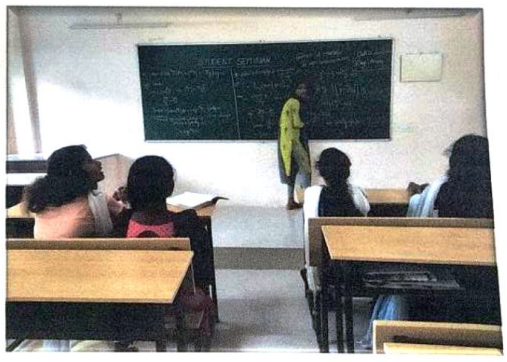
Name of the student : A. Manasa, MPCs I year.
Topic : First order Differential Equations.
Date : 15.02.2021
H.T. No : 439-21-4103
Attended students : 06
Supervised by : Dr. T. Gangaiah

Remarks / suggestions :

1). Explain the topic while writing on the board
2). Explained the topic nicely.

Aggarala

Principal
Govt. Degree College
Luxettipet-504 215



"Student Seminar" by A. Manasa

STUDENT SEMINAR

Date:-15-
Name:T. Su
Group:439

Problem:- Solve $(x^2+y^2)dx - 2xy\,dy = 0$

Solution:

Here

$M = x^2+y^2$, $N = -2xy$,

$$\frac{1}{N}\left[\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right] = -\frac{2}{x}$$

Thus

$$I.F = e^{\int f(x)dx}$$

$$= \exp\left[\int -\frac{2}{x}dx\right] = e^{-2\log x}$$

$$= \frac{1}{x^2}$$

Multiplying the given equation by $\frac{1}{x^2}$ - we get

$$\left[1+\frac{y^2}{x^2}\right]dx - \frac{2y}{x}dy = 0$$

$$dx + d\left(\frac{-y^2}{x}\right) = 0$$

Regards

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Academic Year: 2020 - 21

Student Seminar - (1)

Name of the student : T. Swetha, MPCS I Year.
Topic : First order Differential Equations
Date : 15.02.2021
H.T.No : 439-21-417 20
Attended students : 06
Supervised by : Dr. T. Gangaiah

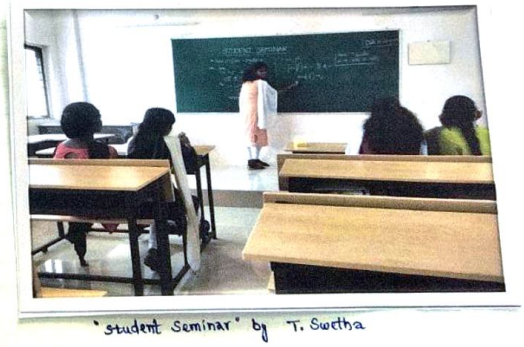
Remarks/ Suggestions :

1). Advised to speak loudly

2). Advised to supervise the class while writing on the board.

Regards

Principal
Govt. Degree College
Luxettipet- 504 215



'Student Seminar' by T. Swetha

Record of Assignments 2020-21

Sem I & II

Assignment – I : For Sem – II students.

[All B.Sc. MPC/ MPCS II Sem, I year]

given Date: 17.02.2021

Problem:

1) Solve $(1+e^{x/y})\,dx + e^{x/y}\left(1-\frac{x}{y}\right)dy = 0$

2). solve $(x^2y - 2xy^2)\,dx - (x^3 - 3x^2y)\,dy = 0$.

Last date to submission: 27.02.2021.

M. Regaiah

Principal
Govt. Degree College
Luxettipet-504 215

Sem-IV students

Assignment – I

All B.Sc. MPC/ MPCS IV sem students. (II year).

Given date: 17.02.2021

Prove the following theorems

Theorem '1'.

state and prove "Lagrange's theorem" on groups"

Theorem '2'

"The union of two subgroups is a subgroup iff one is contained in the other"

Last date to Submission: 27.02.2021.

M. Regaiah

Principal
Govt. Degree College
Luxettipet-504 215

Sem - VI students

[All B.Sc. MPC/ MPCS III Year students]

Given date : 17.02.2021

Problem 1:—

Find the centre and radius of the circle $x+2y+2z=15$ and $x^2+y^2+z^2-2y-4z=11$

Problem 2:—

Find the equation of the sphere which passes through the point (α, β, γ) and circle $x^2+y^2=a^2$, $z=0$.

Last date submission: 27.02.2021.

Regards

Principal
Govt. Degree College
Luxettipet-504 215