



Moodlakatte Institute of Technology

(A Unit of Moodlakatte Nagarathna Bhujanga Shetty Trust (R.))

(Approved by AICTE, New Delhi & Affiliated to VTU, Belagavi)

Moodlakatte - 576 217, Kundapura Taluk, Udupi District, Karnataka

The grievance redressal system is time-bound and efficient

At MITK the grievance redressal system in place is designed to be time-bound and efficient, ensuring that student concerns are addressed promptly and effectively. At the institute level, students are encouraged to directly engage with faculty members regarding any issues with assigned marks. Should the matter remain unresolved, it is escalated to higher authorities within the institution, who are tasked with taking appropriate measures to resolve the grievance in a timely manner.

Similarly, at the university level, the Examination Management system (EMS) coordinator oversees examination-related grievances and maintains a log book to document these concerns. This systematic approach allows for grievances to be tracked and addressed in a timely fashion, minimizing delays and ensuring that students receive the necessary support and resolution.

In the case of dissatisfaction with marks obtained in the Semester End Examination (SEE), students are provided with clear guidelines on how to apply for revaluation before the last date. The departmental EMS coordinator provides guidance and support throughout this process, ensuring that students can seek redressal within the specified timeframe.

Additionally, a ticketing system is employed by the university to address any other examination-related issues such as USN that may arise. This system enables efficient tracking and resolution of grievances, with appropriate measures taken to address each concern in a timely manner.

Furthermore, the Institutional Grievance Redressal Committee collaborates closely with the examination cell to resolve examination-related grievances comprehensively. By leveraging the expertise and insights of various stakeholders, the committee ensures that grievances are addressed promptly and fairly, upholding the integrity of the examination process.

The grievance redressal system is characterized by its time-bound and efficient approach, aiming to address student concerns promptly and effectively. By providing clear channels for communication, guidance, and resolution, the system contributes to a supportive and conducive learning environment for all students. The following documents are submitted by the HEI to substantiate the grievance redressal system is time-bound and efficient.

- Grievance related to Continuous Internal evaluation (CIE)- Question Paper, Scheme, IA Book, sample evidence.
- Circular for submission of online application forms for revaluation (SEE) and photocopy
- Grievance related to Semester End Examination (SEE), USN and other issues communicated to university and time bound resolution —sample evidence.

Principal
Moodlakatte Institute of Technology
Moodlakatte, Kundapura - 576217
Udupi Dist. Karnataka



MOODLAKATTE INSTITUTE OF TECHNOLOGY

MOODLAKATTE-576 217, **KUNDAPURA** DIST: UDUPI

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INTERNAL ASSESSMENT BOOK

ACADEMIC YEAR 20 22 -20 23

Department/Programme:	Basic Science and Humanities.		
Subject Title:	BEMATS201 - MATHEMATICS.	Subject Code:	BEMATS201

Name: AISHWARYA Roll No.: 02

USN. 4mk22EC002 SEM: II Section: C

FOR STAFF USE ONLY

IA TEST	Date	Invigilator's Sign.	Marks Obtained	Subject Faculty in-charge signature	Average of 3 IA Test	Final Assignment Marks
			Max.Marks (30)			
I	10/7/23		16/25 = 64/100		09/15	10/10
II	4/10/23		12/25 = 48/100			10/10
III						Avg = 10/10

Final CIE Marks (IA Test + Assignment): _____

44/50

19/25

19/25

44/50

Signature of Student

Signature of Subject Faculty in-charge

Signature of HOD

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Moodlakatte Institute of Technology, Kundapura

Kundapura

Department of Basic Science

I - Internal Assessment

Semester: 2-CBCS 2022

Subject: MATHEMATICS FOR EES-II (BMATE201)

Faculty: Ms Chaithra

Date: 10 Jul 2023

Time: 09:30 AM - 10:30 AM

Max Marks: 25

Answer any 2 question(s)

Q.No			Marks	CO	PO	BT/CL
1	a	Find the Directional derivative of $\phi = x^2yz + 4xz^2$ at (1,2,-1) along $2i - j - 2k$.	6	CO1	PO1	L2
	b	Find constants a and b such that $\vec{F} = (axy + z^3)i + (3x^2 - z)j + (bxz^2 - y)k$ is irrotational and find scalar potential function ϕ such that $\vec{F} = \nabla\phi$.	7	CO1	PO1	L3
OR						
2	a	Using Greens theorem evaluate $\int (xy + y^2)dx + x^2dy$ over the region bounded by the curves $y=x$ and $y = x^2$.	6	CO1	PO1	L5
	b	Verify Stoke's theorem to evaluate $\iint \text{curl } \vec{F} \cdot \hat{n} \, ds$ where $\vec{F} = (x^2 + y^2)i - 2xyj$ taken around the rectangle bounded by the line $x=\pm a, y=0, y=b$.	7	CO1	PO1	L5
3	a	Show that $\vec{A} = (y^2 - z^2 + 3yz - 2x)i + (3xz + 2xy)j + (3xy - 2xz + 2z)k$ is both solenoidal and irrotational.	6	CO1	PO1	L4
	b	Find the laplace transform of i. $e^{-3t}(2\cos 5t - 3\sin 5t)$ ii. $\frac{\cos at - \cos bt}{t}$	6	CO3	PO2	L3
OR						
4	a	Find $\text{div } \vec{F}$ and $\text{curl } \vec{F}$ at (1,2,3) if $\vec{F} = 3x^2i + 5xy^2j + 5xyz^3k$.	6	CO1	PO1	L3
	b	Find the Laplace transform of i. $te^{-t}\sin 4t$ ii. $\frac{1 - \cos at}{t}$	6	CO3	PO2	L3

CO1 : Understand the applications of vector calculus refer to solenoidal, irrotational vectors, line integral and surface integral.

CO3 : To understand the concept of Laplace transform and to solve initial value problems.

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Department of Basic Science and humanity

Subject :- Engineering mathematics II for EC stream

Sub.Code :- BMATE201.

IA-I Scheme of Evaluation

1) Given $\phi = x^2yz + 4xz^2$ at $(1, 2, -1)$ along $2\mathbf{i} - \mathbf{j} - 2\mathbf{k}$

To find directional derivative $= \nabla\phi \cdot \mathbf{N}$. (1)

$$\text{Here } \nabla\phi = \mathbf{i} \frac{\partial\phi}{\partial x} + \mathbf{j} \frac{\partial\phi}{\partial y} + \mathbf{k} \frac{\partial\phi}{\partial z}$$

$$\nabla\phi = \mathbf{i} \frac{\partial}{\partial x} (x^2yz + 4xz^2) + \mathbf{j} \frac{\partial}{\partial y} (x^2yz + 4xz^2) + \mathbf{k} \frac{\partial}{\partial z} (x^2yz + 4xz^2)$$

$$= \mathbf{i} (2xyz + 4z^2) + \mathbf{j} (x^2z) + \mathbf{k} (x^2y + 8xz)$$
 (1)

$$\nabla\phi \Big|_{(1, 2, -1)} = \underline{0\mathbf{i} - \mathbf{j} - 6\mathbf{k}}$$
 (1)

Then unit normal vector in the direction of $2\mathbf{i} - \mathbf{j} - 2\mathbf{k}$

$$\begin{aligned} \mathbf{N} &= \frac{2\mathbf{i} - \mathbf{j} - 2\mathbf{k}}{\sqrt{2^2 + 1^2 + 2^2}} \\ &= \underline{\underline{\frac{2\mathbf{i} - \mathbf{j} - 2\mathbf{k}}{3}}} \end{aligned}$$
 (1)

$$-jz^2(b-3) + kx(6-a) = 0$$

$$-jz^2(b-3) = 0$$

$$b-3=0$$

$$\underline{\underline{b=3}}$$

$$kx(6-a) = 0$$

$$6-a=0$$

$$\underline{\underline{a=6}}$$

$$\therefore \underline{\underline{a=6}} \text{ and } \underline{\underline{b=3}}$$

We have $\nabla\phi = F$

$$\Rightarrow i \frac{\partial\phi}{\partial x} + j \frac{\partial\phi}{\partial y} + k \frac{\partial\phi}{\partial z} = (axy + z^3)i + (3x^2 - z)j + (bxz^2 - y)k$$

$$a=6 \quad b=3$$

$$\Rightarrow i \frac{\partial\phi}{\partial x} + j \frac{\partial\phi}{\partial y} + k \frac{\partial\phi}{\partial z} = (6xy + z^3)i + (3x^2 - z)j + (3xz^2 - y)k$$

Now

$$\frac{\partial\phi}{\partial x} = 6xy + z^3$$

$$\frac{\partial\phi}{\partial y} = 3x^2 - z$$

$$\frac{\partial\phi}{\partial z} = 3xz^2 - y$$

We have.

$$\frac{\partial\phi}{\partial x} = 6xy + z^3$$

Integrating on both side

$$\int \frac{\partial\phi}{\partial x} = \int (6xy + z^3) \cdot dx$$

Here $M = xy + y^2$

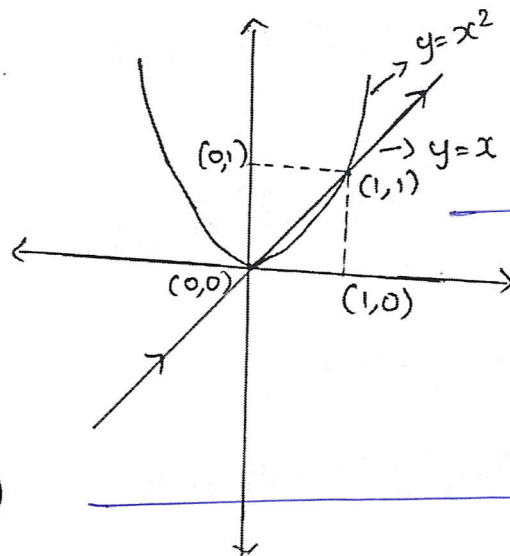
$N = x^2$

$$\frac{\partial M}{\partial y} = x + 2y$$

$$\frac{\partial N}{\partial x} = 2x$$

$$\frac{\partial N}{\partial x} - \frac{\partial M}{\partial y} = 2x - (x + 2y)$$

$$= 2x - x - 2y = \underline{\underline{x - 2y}}$$



x varies from 0 to 1
 y varies from x^2 to x .

Then $\int_0^1 \int_{x^2}^x (x - 2y) \cdot dy \, dx$

$$\Rightarrow \int_0^1 (xy - y^2)_{x^2}^x \cdot dx$$

$$= \int_0^1 (x^2 - x^3) - (x^3 + x^4) \, dx$$

$$= \int_0^1 x^2 - x^3 - x^3 + x^4 \, dx$$

$$= \left[-\frac{x^4}{4} + \frac{x^5}{5} \right]_0^1$$

$$= \left[-\frac{1}{4} + \frac{1}{5} \right]$$

$$= \frac{-5+4}{20} = \underline{\underline{-\frac{1}{20}}}$$

Here y - varies from 0 to b
 x - varies from $-a$ to a

$$\Rightarrow \int_{x=-a}^a \int_{y=0}^b -4y \, dy \, dx$$

$$\Rightarrow \int_{x=-a}^a \left[-2y^2 \right]_{y=0}^b dx \Rightarrow \int_{x=-a}^a -2(b^2 - 0) dx \quad \text{--- (1)}$$

$$\Rightarrow \int_{x=-a}^a -2b^2 \cdot dx = \left[-2b^2 x \right]_0^a = -2b^2[a+a]$$

$$\Rightarrow -2b^2(2a) = \underline{\underline{-4ab^2}} \quad \text{--- (1)}$$

Verification: We can write the line integral along C = line integral along A to B : $y=0$, $dy=0$
 $-a \leq x \leq a$ Then I_1 .

$$\int_C \vec{F} \cdot d\vec{r} \quad \text{Here } \vec{F} = (x^2 + y^2)\hat{i} + 2xy\hat{j}$$

$$d\vec{r} = dx\hat{i} + dy\hat{j} + dz\hat{k}$$

$$\vec{F} \cdot d\vec{r} = (x^2 + y^2) dx - 2xy \cdot dy \quad \text{--- (1)}$$

$$(i) \text{ Then } I_1 = \int_{x=-a}^a x^3 dx = \left[\frac{x^3}{3} \right]_{-a}^a$$

$$= \frac{a^3}{3} + \frac{a^3}{3} = \underline{\underline{\frac{2a^3}{3}}} \quad \text{--- (1)}$$

Hence Stoke's theorem is verified.

3
a) Given : $\vec{A} = (y^2 - z^2 + 3yz - 2x)\mathbf{i} + (3xz + 2xy)\mathbf{j} + (3xy - 2xz + 2z)\mathbf{k}$

We know that

if $\text{div} F = 0$ $\vec{A}$ is solenoidal.

$\text{curl} F = 0$ $\vec{A}$ is irrotational.

We have

$$\text{div} F = \nabla \cdot F = \frac{\partial F_x}{\partial x} + \frac{\partial F_y}{\partial y} + \frac{\partial F_z}{\partial z} \quad \text{--- (1)}$$

Let

$$F_x = y^2 - z^2 + 3yz - 2x$$

$$F_y = 3xz + 2xy$$

$$F_z = 3xy - 2xz + 2z$$

$$\text{div} A = \frac{\partial}{\partial x} (y^2 - z^2 + 3yz - 2x) + \frac{\partial}{\partial y} (3xz + 2xy) + \frac{\partial}{\partial z} (3xy - 2xz + 2z)$$

$$= -2 + 2x - 2x + 2$$

$$= 0 \quad \text{--- (1)}$$

$\therefore \vec{A}$ is solenoidal.

We have

$$\text{curl} \vec{F} = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ F_x & F_y & F_z \end{vmatrix} \quad \text{--- (1)}$$

$$\text{curl} \vec{A} = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ y^2 - z^2 + 3yz - 2x & 3xz + 2xy & 3xy - 2xz + 2z \end{vmatrix} \quad \text{--- (1)}$$

Given $\frac{\cos at - \cos bt}{t}$

$$\mathcal{L} \left\{ \frac{\cos at - \cos bt}{t} \right\}$$

We have

$$\mathcal{L} \left\{ \frac{f(t)}{t} \right\} = \int_s^\infty f(s) \cdot ds$$

$$f(t) = \cos at - \cos bt$$

$$\mathcal{L} \{ \cos at - \cos bt \} = \left(\frac{s}{s^2 + a^2} \right) - \left(\frac{s}{s^2 + b^2} \right)$$

$$\mathcal{L} \left\{ \frac{\cos at - \cos bt}{t} \right\} = \int_s^\infty \left(\frac{s}{s^2 + a^2} - \frac{s}{s^2 + b^2} \right) \cdot ds$$

$$= \left[\frac{1}{2} \log (s^2 + a^2) - \frac{1}{2} \log (s^2 + b^2) \right]_s^\infty$$

$$= \frac{1}{2} \left[\log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) \right]_s^\infty$$

$$= \frac{1}{2} \left[\lim_{s \rightarrow \infty} \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) - \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) \right]$$

$$= \frac{1}{2} \left[\log \frac{s^2(1 + a^2/s^2)}{s^2(1 + b^2/s^2)} - \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) \right]$$

$$= \frac{1}{2} \left[\log \left(\frac{1+0}{1+0} \right) - \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) \right]$$

$$= \frac{1}{2} \left[\log 1 - \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right) \right] = -\frac{1}{2} \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right)$$

$$= \log \left(\frac{s^2 + a^2}{s^2 + b^2} \right)^{-1/2} = \log \left(\frac{s^2 + b^2}{s^2 + a^2} \right)^{1/2}$$

$$\text{curl } \vec{F} = i \left(\frac{\partial}{\partial y} (5xyz^3) - \frac{\partial}{\partial z} (5xy^2) \right) - j \left(\frac{\partial}{\partial x} (5xyz^3) - \frac{\partial}{\partial z} (3x^2) \right) + k \left(\frac{\partial}{\partial x} (5xy^2) - \frac{\partial}{\partial y} (3x^2) \right)$$

$$= i (5xz^3 - 0) - j (5yz^3 - 0) + k (5y^2 - 0)$$

$$= (5xz^3)i - (5yz^3)j + (5y^2)k$$

$$\left[\text{curl } \vec{F} \right]_{(1,2,3)} = (5 \times 1 \times 3^3)i + (5 \times 2 \times 3^3)j + (5 \times 2^2)k$$

$$= 45i + 90j + 20k$$

$$\therefore \text{curl } \vec{F} = 45i + 90j + 20k$$

(i)

Given: $t e^{-t} \sin 4t$

We know that,

$$\mathcal{L} \{ e^{-at} f(t) \} = f(s-a)$$

$$\mathcal{L} \{ t^n f(t) \} = (-1)^n \frac{d^n}{ds^n} [f(s)]$$

Now To find $\mathcal{L} \{ e^{-2t} \sin 4t \}$

$$\text{Now } \mathcal{L} \{ f(t) \} = \mathcal{L} \{ \sin 4t \} = \frac{4}{s^2 + 16}$$

$$\text{Now } \mathcal{L} \{ e^{-2t} \sin 4t \} = \left(\frac{4}{(s+2)^2 + 16} \right) = f(s)$$

let:
Given:

$$\phi = x^2yz + 7xz^2 \text{ at } (1, 2, -1)$$

$$\nabla\phi = i \frac{\partial\phi}{\partial x} + j \frac{\partial\phi}{\partial y} + k \frac{\partial\phi}{\partial z}$$

$$= i \frac{\partial(x^2yz + 7xz^2)}{\partial x} + j \frac{\partial(x^2yz + 7xz^2)}{\partial y} + k \frac{\partial(x^2yz + 7xz^2)}{\partial z}$$

$$= i(2xyz + 7z^2) + j(x^2z) + k(x^2y + 14xz)$$

at Point $(1, 2, -1) \Rightarrow (x, y, z)$

$$= i(2(1)(2)(-1) + 7(-1)^2) + j(1^2(-1)) + k(1^2(2) + 14(1)(-1))$$

$$= i(-4 + 7) + j(-1) + k(2 - 14) = 3i - j - 12k$$

Unit normal vector: $N = \frac{\vec{a}}{|\vec{a}|}$

$$N = \frac{3i - j - 12k}{\sqrt{3^2 + 1^2 + 12^2}} = \frac{3i - j - 12k}{\sqrt{154}}$$

$$= \frac{3i - j - 12k}{\sqrt{154}}$$

$$(x_0 - x_1)r + (y_0 - y_1)s + (z_0 - z_1)t = 0$$

$$(0 - 0)x + (0 - 0)y + (0 - 0)z = 0$$

Directional derivative = $\nabla \phi \cdot N$

$$= (1 - 1j - 6k) \left(\frac{2i - j - 2k}{3} \right)$$

$$= \frac{1}{3} (2 + 1 + 12) = \frac{15}{3} = 5$$

Directional derivative = 5

1. 5] Given:-

$$\vec{F} = (axy + z^3)i + (3x^2 - z)j + (bxz^2 - y)k$$

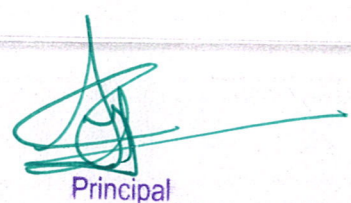
$$\text{Curl } F = 0$$

$$\nabla \times F = \begin{vmatrix} i & j & k \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ axy + z^3 & 3x^2 - z & bxz^2 - y \end{vmatrix} = 0$$

$$= i \left(\frac{\partial (bxz^2 - y)}{\partial y} - \frac{\partial (3x^2 - z)}{\partial z} \right) - j \left(\frac{\partial (bxz^2 - y)}{\partial x} - \frac{\partial (axy + z^3)}{\partial z} \right) + k \left(\frac{\partial (3x^2 - z)}{\partial x} - \frac{\partial (axy + z^3)}{\partial y} \right)$$

$$= i (-1 + 1) - j (bz^2 - 3z^2) + k (6x - ax)$$

$$= i (0) - j z^2 (b - 3) + k x (6 - a)$$


Principal

$$= \cancel{+6} i - j z^2 (b-3) + kx (6-a)$$

To find a and b :

$$b-3=0$$

$$6-a=0 \Rightarrow a=6$$

$$\underline{b=3}$$

$$\underline{a=6}$$

Now sub a and b value in ϕ

$$\nabla \phi = (axy + z^3)i + (3x^2 - z)j + (bxz^2 - y)k$$

$$= (6xy + z^3)i + (3x^2 - z)j + (3xz^2 - y)k$$

Now,

$$\nabla \phi = F$$

$$i \frac{\partial \phi}{\partial x} + j \frac{\partial \phi}{\partial y} + k \frac{\partial \phi}{\partial z} = (6xy + z^3)i + (3x^2 - z)j + (3xz^2 - y)k$$

Now,

$$\frac{\partial \phi}{\partial x} = 6xy + z^3$$

$$\frac{\partial \phi}{\partial y} = 3x^2 - z$$

$$\frac{\partial \phi}{\partial z} = 3xz^2 - y$$

Now

$$\int \frac{\partial \phi}{\partial x} = \int (6xy + z^3) dx = 3x^2y + z^3x$$

$$\phi = 3x^2y + z^3x + f_1(zy) \rightarrow \textcircled{1}$$

Then

$$\int \frac{\partial \phi}{\partial y} = \int (3x^2 - z) dy \Rightarrow \phi = 3x^2y - zy$$

$$\phi = 3x^2y - zy + f_2(zx) \rightarrow \textcircled{2}$$

Then

$$\frac{\partial \phi}{\partial z} = \int (3xz^2 - y) dz$$

$$\phi = \cancel{3x} \cancel{z^3} - yz \Rightarrow \phi = \cancel{3x} z^3 - yz + f_3(yx) \rightarrow \textcircled{3}$$

$$\phi = xz^3 - yz + f_3(yx) \rightarrow \textcircled{3}$$

Now,

$$f_1(zy) = -zy$$

$$f_2(zx) = z^3x$$

$$f_3(yx) = 3x^2y$$

Now,

$$\phi = f_1(zy) + f_2(zx) + f_3(yx)$$

$$\phi = -zy + z^3x + 3x^2y$$

$$\phi = \underline{3x^2y + z^3x - zy} \quad \text{--- (5+uxd) ---} = \frac{\phi_6}{x_0}$$

$$\textcircled{1} \quad x^5 + u^5 x^8 \leftarrow x^5 + u^5 \frac{x^8}{8} \quad \phi = \phi$$

$$\textcircled{1} \leftarrow (u^5), 7 + x^5 + u^5 x^8 = \phi$$

$$u^5 - u^5 x^8 = \phi \leftarrow u^5 (5 - x^8) = \frac{\phi_6}{u_0}$$

$$\vec{F} = 3x^2\vec{i} + 5xy^2\vec{j} + 5xyz^3\vec{k}$$

$$\text{div } \vec{F} = \frac{\partial F_x}{\partial x} + \frac{\partial F_y}{\partial y} + \frac{\partial F_z}{\partial z}$$

$$\nabla \vec{F} = \vec{i} \frac{\partial F}{\partial x} + \vec{j} \frac{\partial F}{\partial y} + \vec{k} \frac{\partial F}{\partial z}$$

$$= \vec{i} \left(\frac{\partial}{\partial x} (3x^2\vec{i} + 5xy^2\vec{j} + 5xyz^3) \right) + \vec{j} \left(\frac{\partial}{\partial y} (3x^2\vec{i} + 5xy^2\vec{j} + 5xyz^3) \right)$$

$$+ \vec{k} \left(\frac{\partial}{\partial z} (3x^2\vec{i} + 5xy^2\vec{j} + 5xyz^3) \right)$$

$$= \vec{i} (6x\vec{i} + 5y^2\vec{j} + 5yz^3) + \vec{j} (10xy\vec{j} + 5xz^3) + \vec{k} (15xyz^2)$$

$$\vec{\nabla} \cdot \vec{F} = \vec{i} (6x\vec{i} + 5y^2\vec{j} + 5yz^3) + \vec{j} (10xy\vec{j} + 5xz^3) + \vec{k} (15xyz^2)$$

let

$$F_x = 6x\vec{i} + 5y^2\vec{j} + 5yz^3$$

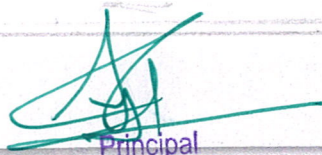
$$F_y = 10xy\vec{j} + 5xz^3$$

$$F_z = 15xyz^2$$

$$\text{div } \vec{F} = \frac{\partial F_x}{\partial x} + \frac{\partial F_y}{\partial y} + \frac{\partial F_z}{\partial z}$$

$$= \frac{\partial}{\partial x} (6x\vec{i} + 5y^2\vec{j} + 5yz^3) + \frac{\partial}{\partial y} (10xy\vec{j} + 5xz^3) + \frac{\partial}{\partial z} (15xyz^2)$$

$$= 6\vec{i} + 10x\vec{j} + 15xz^2$$


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$$= \frac{\partial (6xi + 5y^2j + 5yz^3)}{\partial x} + \frac{\partial (10xyj + 5xz^3)}{\partial y} + \frac{\partial (15xyz^2)}{\partial z}$$

$$\text{div } F = 6i + 10xyj + 30xyz$$

$$\text{curl } F = \begin{vmatrix} i & j & k \\ \frac{\partial}{\partial x} & \frac{\partial}{\partial y} & \frac{\partial}{\partial z} \\ 3x^2i & 5xy^2j & 5xyz^3k \end{vmatrix} = 0$$

$$= i \left(\frac{\partial (5xyz^3k)}{\partial y} - \frac{\partial (5xy^2j)}{\partial z} \right) - j \left(\frac{\partial (5xyz^3k)}{\partial x} - \frac{\partial (3x^2i)}{\partial z} \right) - k \left(\frac{\partial (5xyz^3k)}{\partial x} - \frac{\partial (3x^2i)}{\partial y} \right) = 0$$

$$= i (5xz^3k) - j (5yz^3k) + k (5y^2j) = 0$$

$$= (5xz^3k)i - (5yz^3k)j + (5y^2j)k = 0$$

at point (1, 2, 3)

$$= (5(1)(3)^2k)i - (5(2)(3)^3k)j + (5(2)^2j)k = 0$$

$$= 45ki - 90kj + 20jk = 0$$

div F at Point (1, 2, 3)

$$\text{div } F = 6i + 10xj + 30xyz$$

$$\begin{aligned} &= 6i + 10(1)j + 30(1)(2)(3) \\ &= 6i + 10j + 180 \end{aligned}$$

$$\text{curl } F = 9sk i - 90k j + 20j k = 0$$

5]

i)

$$te^{-t} \sin 4t$$

$$\text{let } e^{-t} \sin 4t$$

To find $P(t) = \sin 4t$

$$P(t) = \frac{4}{s^2 + 16} \Rightarrow \frac{4}{s^2 + 16}$$

$$e^{-t} \sin 4t = \left(\frac{4}{s^2 + 16} \right) s \rightarrow s+1$$

$$e^{-t} \sin 4t = \frac{4}{(s+1)^2 + 16} = P(s)$$

Let

$$\mathcal{L}\{te^{-t} \sin 4t\} = -(-1)^n \frac{d^n}{ds^n} [P(s)]$$

$$\{ \log 20 \} \downarrow - \{ 1 \} \downarrow \frac{d^n}{ds^n} \{ \log 20 \} - 1 \downarrow$$

$$= -1 \frac{d}{ds} \left[\frac{4}{(s+1)^2 + 16} \right]$$

$$= - \left[\frac{-4 \cdot 2(s+1)}{((s+1)^2 + 16)^2} \right]$$

$$= \frac{+8(s+1)}{((s+1)^2 + 16)^2}$$

$$= \frac{8(s+1)}{(s^2 + 1^2 + 2 \cdot s \cdot 1 + 16)^2} \Rightarrow \frac{8(s+1)}{(s^2 + 1 + 2s + 16)^2}$$

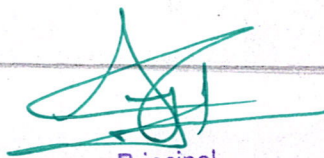
$$\Rightarrow \frac{8(s+1)}{(s^2 + 2s + 17)^2}$$

ii) $\frac{1 - \cos at}{t}$

let $L \left\{ \frac{f(t)}{t} \right\} = \int_s^\infty [P(s)] ds$

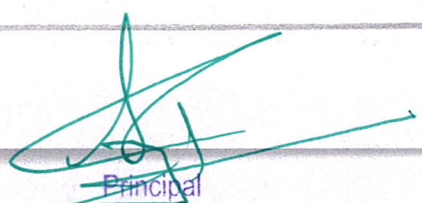
here

$$1 - \cos at = P(t) \Rightarrow L\{1 - \cos at\} \Rightarrow L\{1\} - L\{\cos at\}$$



Principal

$$\begin{aligned}
 &= \left(\frac{s}{s^2+a^2} \right) - \left(\frac{s}{s^2+a^2} \right) = f(s) \\
 &= \int_s^\infty \left[\left(\frac{s}{s^2+a^2} \right) - \left(\frac{s}{s^2+a^2} \right) \right] ds \\
 &= \left[\frac{1}{2} \log(s^2+a^2) - \frac{1}{2} \log(s^2+a^2) \right]_s^\infty \\
 &= \frac{1}{2} \left[\log \left(\frac{s^2+a^2}{s^2+a^2} \right) \right]_s^\infty \\
 &= \frac{1}{2} \left[\frac{1 + \cancel{s^2/s^2}}{1 + \cancel{a^2/s^2}} \right] \\
 &= \frac{1}{2} \left[\frac{1+0}{1+0} \right] \Rightarrow \underline{\underline{\frac{1}{2}}}
 \end{aligned}$$



MBA hall ticket not generated

2 messages

Exam Section MITK <examsection@mitkundapura.com>

Mon, Jul 26, 2021 at 10:36 AM

To: prexam <prexam@vtu.ac.in>

Sir

1 sem MBA hall ticket not generated in College Login. Most of the students applied through college login. Afternoon is exam for them

Thanking you

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

www.mitkundapura.com

VTU Prexam Team <prexam@vtu.ac.in>

Tue, Jul 27, 2021 at 6:21 PM

To: Exam Section MITK <examsection@mitkundapura.com>

Respected Sir/Madam,

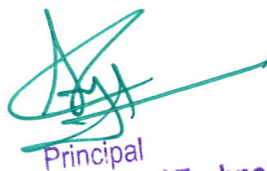
Problem is Resolved.

Thanks & Regards

VTU Prexam Team

VTU, Belagavi-590018

[Quoted text hidden]



Principal
Moodlakatte Institute of Technology
Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka



Exam Section MITK <examsection@mitkundapura.com>

bLOCKED 4MK17CS002

5 messages

Exam Section MITK <examsection@mitkundapura.com>
To: prexam <prexam@vtu.ac.in>

Tue, Aug 4, 2020 at 12:39 PM

4MK17CS002 STUDENT EXAM APPLICATION IS SHOWING BLOCKED.

WHAT TO DO SIR

WHAT IS THE NEXT PROCEDURE

THANKING YOU

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

www.mitkundapura.com

Exam Section MITK <examsection@mitkundapura.com>
To: prexam <prexam@vtu.ac.in>

Tue, Aug 4, 2020 at 4:48 PM

[Quoted text hidden]



Virus-free. www.avast.com

VTU Prexam <prexam@vtu.ac.in>

To: Exam Section MITK <examsection@mitkundapura.com>

Tue, Aug 4, 2020 at 4:51 PM

Respected Sir/Madam,

Today they will give the option to Unlock.

—
Thanks & Regards
Prexam Team
VTU,Belagavi-590018


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Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

[Quoted text hidden]

Exam Section MITK <examsection@mitkundapura.com>
To: VTU Prexam <prexam@vtu.ac.in>

Tue, Aug 4, 2020 at 5:06 PM

College name is not displaying in some of the student exam form

Thanking you

 Virus-free. www.avast.com

[Quoted text hidden]

VTU Prexam <prexam@vtu.ac.in>
To: Exam Section MITK <examsection@mitkundapura.com>

Wed, Aug 5, 2020 at 10:50 AM

Respected Sir/Madam,

The Un-Lock option is available. Kindly login into Student Portal and un-lock the account.

--
Thanks & Regards
Prexam Team
VTU,Belagavi-590018

[Quoted text hidden]



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Udupi Dist, Karnataka



Exam Section MITK <examsection@mitkundapura.com>

MATDIP301 Subject code not added in 2010 scheme

7 messages

Exam Section MITK <examsection@mitkundapura.com>

Tue, Nov 5, 2019 at 6:56 PM

To: prexam <prexam@vtu.ac.in>

sIR,

we tried to apply student exam form bearing USN 4MK14CV412 and 4MK14CV414 subject code MATDIP301 is not added in that list of NON CBCS

Plz do add MATDIP 301 in NON CBCS 3 rd sem

Do the needful

Thanking you

--

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

www.mitkundapura.com

 I'm protected online with Avast Free Antivirus. Get it here — it's free forever.

Exam Section MITK <examsection@mitkundapura.com>

Wed, Nov 6, 2019 at 11:34 AM

To: prexam <prexam@vtu.ac.in>

[Quoted text hidden]

VTU Prexam <prexam@vtu.ac.in>

Wed, Nov 6, 2019 at 12:41 PM

To: Exam Section MITK <examsection@mitkundapura.com>

Respected Sir/Madam,

Your query has been resolved. Complete the Application.

Principal

Moodlakatte Institute of Technology
Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

--
Thanks & Regards
Prexam Team
VTU,Belagavi-590018
[Quoted text hidden]

Exam Section MITK <examsection@mitkundapura.com>
To: VTU Prexam <prexam@vtu.ac.in>

Wed, Nov 6, 2019 at 1:10 PM

same problem sir

not showing MATDIP301 in 2010 scheme.
Edit option also not working
[Quoted text hidden]

VTU Prexam <prexam@vtu.ac.in>
To: Exam Section MITK <examsection@mitkundapura.com>

Wed, Nov 6, 2019 at 1:01 PM

Respected Sir/Madam,
Your query has been resolved. Please do check.

--
Thanks & Regards
Prexam Team
VTU,Belagavi-590018

[Quoted text hidden]

VTU Prexam <prexam@vtu.ac.in>
To: Exam Section MITK <examsection@mitkundapura.com>

Wed, Nov 6, 2019 at 4:57 PM

Respected Sir/Madam,

Your query has been resolved. Complete the Application.

--
Thanks & Regards
Prexam Team
VTU,Belagavi-590018

[Quoted text hidden]

Exam Section MITK <examsection@mitkundapura.com>
To: VTU Prexam <prexam@vtu.ac.in>

Thu, Nov 7, 2019 at 9:45 AM

Sir

2014 batch for MATDIP301 marks fees added



Principal

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Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

Subject not displaying

3 messages

Exam Section MITK <examsection@mitkundapura.com>

Wed, Feb 21, 2018 at 11:31 AM

To: prexam <prexam@vtu.ac.in>

Our student bearing USN 4MK14CV008 appeared for first year subject i.e 15CHE15, 15ELE25, 15EME14, 15MAT21, but in revaluation for only 15EME14 AND 15MAT21 is displaying .

Please do the needful

Thanking you

--

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

www.mitkundapura.com

prexam <prexam@vtu.ac.in>

Wed, Feb 21, 2018 at 11:48 AM

To: Exam Section MITK <examsection@mitkundapura.com>

On 2018-02-21 11:31 AM, Exam Section MITK wrote:

Our student bearing USN 4MK14CV008 appeared for first year subject i.e 15CHE15, 15ELE25, 15EME14, 15MAT21, but in revaluation for only 15EME14 AND 15MAT21 is displaying .

Please do the needful

Thanking you

--

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

www.mitkundapura.com [1]

Links:



Principal
Moodlakatte Institute of Technology
Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

[1] <http://www.mitkundapura.com>

Respected Sir/Madam,

Your query has been resolved please check it once again..

Thanks & Regards
Prexam Team
VTU, Belagavi-590018

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Please consider the environment before printing this email. Ask yourself whether you really need a hard copy.

Exam Section MITK <examsection@mitkundapura.com>
To: prexam <prexam@vtu.ac.in>

Wed, Feb 21, 2018 at 11:44 AM

thank you sir
[Quoted text hidden]

Exam section

Moodlakatte Institute of Technology, Kundapura

Phone : 08254- 236970; Fax: 08254-237235;

examsection@mitkundapura.com

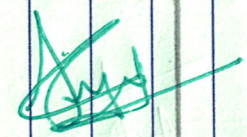
www.mitkundapura.com



Principal
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Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

2018 - 19 VTU Examination

Sl. No	USN	Name	Date	Grievance	Grievance Referred to	Grievance resolution	Student Signature	Remarks
1	4MK15ME403 4MK15ME406	Manjunath	12/3/18	Applied for photocopy but they didn't received any link. or photo copy	praxam@vtu.ac.in	13/3/18	Manjunath	Problem is resolved. Students get the photocopy
2	4MK14CV008	Deepak G S	21/2/18	Unable to apply revaluation form. required Subjects are not displaying.	praxam@vtu.ac.in	22/2/18	Deepak	website Shows the Subjects for revaluation. Application Submitted.


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 Udupi Dist, Karnataka

2019 VTU Examination

1) HMKMCS012 Rajeshwari Shetty.H 2/6/19

problem is Hall ticket not yet generated and even usn is not appearing list.

prexam@vtu.ac.in 3/6/18

Relax

Problem resolved
USN is appeared.
And.
Hall ticket issued.

2) HMKMCS012 Nagaraj JM 5/11/19

issue in uploading exam form for the subject code MATDIP301

prexam@vtu.ac.in 6/11/19

Relax

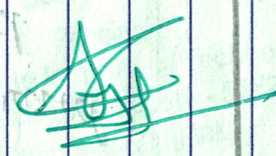
Resolved
and exam Application Submitted

Relax

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Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

2020 - 19 IITU Examination
2020 IITU Examination

S.No	USN	NAME	Date	Grievance	Grievance referred to	Grievance resolved on	Student Signature	Remark
1]	4MK16ME020	Mohammad Saqdain Munam	5/11/20	unable to create the practical Batch for the 4MK16ME020.	prerama@vtn.ac.in	5/11/20		Practical Batch Created for the USN.
2]	4MK17CS002	Anupama	4/8/20	Exam application not enabled for applying. Student 4MK17CS002 is blocked.	prerama@vtn.ac.in	4/8/20	Anupama	problem resolved It shows the unblock Exam application is applied.


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1) 1st Sem MBA
Students

26/7/21 1 sem MBA hall

ticket not
generated in
college logins.

prexam@
vtn.ac.in

27/7/21

Problem
resolved.
hall tickets
generated.

2) AnukisMED19 Raghavendra M

26/7/21

problem in
uploading IA
marks for
AnukisMED19
Student

prexam@
vtn.ac.in

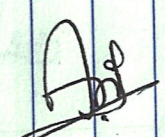
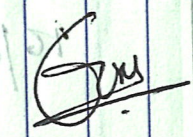
28/7/21

Raghavendra

IA marks
Submitted


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Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

2022 VTU Examination

SL.no	USN	NAME	Date	Grievance	Grievance referred to	Grievance resolution	Student signature	Remarks
1]	4MK18EE002	Anil	1/2/22	unable to applying. the Exam application [medical Certificate]	prexam@vtu.ac.in	2/2/22		Exam application Submitted.
2]	4MK14ME018	Eyan crista	9/7/22	unable to applying the Exam application	prexam@vtu.ac.in	3/8/22		Problem resolved Exam application applied.
3]	4MK20BA004 4MKBA2022013515 Gumeharan		22/8/22	Subject Code is not appearing 20MB14 20MB1301	prexam@vtu.ac.in	27/8/22		problem is resolved.

4] 4MK20BA004

Gurucharan

17/8/22

Exam application preexam@
portal not utu.ac.in

17/8/22

working due to
last date over.

Guru

problem
resolved

Exam application

portal opened

Exam application
applied

5] 4MK13M004

Akash H.C

24/1/22

unable to
applying 8th
Semester
Exam Application

preexam@
utu.ac.in

24/1/22

Akash

Problem
resolved

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Moodlakatte Institute of Technology
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Udupi Dist, Karnataka

Principal
Moodlakatte Institute of Technology
Moodlakatte, Kundapura - 576217
Udupi Dist, Karnataka

USN	DATE	Name	2023 VTU Examination Grievance	Grievance reflected on	Remarks	Student Sign
1] AMK20CV404	23/8/23	Nethin H Charan	Raised ticket for Student AMK20CV404 he cleared the Subject IS MAT31 In revaluation but in his result sheet marks are not reflecting	24/8/23 phexam@vtu.ac.in	problem resolved.	Nethin

2] AMK09EC020 AMK12ME049 AMK14CV420	21/1/23 9:39 AM	Pawan Kumar B Raikar Sandeep V Bagal Thippesha Reddy SH	Students wants to register for Special Examination as notice given from the vtU Circular.	21/01/23 10:56 AM nc@vtu.ac.in	Problem resolved	Ra Sandeep
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Principal
Moodlakatte Institute of Technology
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Udupi Dist, Karnataka