

Nov 2021 (Even)

S.No	CLASS	SUBJECT CODE	TITLE OF THE PAPER	HOURS
1.	I - M.Sc MATHEMATICS	P2RIMTEC2	NUMERICAL ANALYSIS	6
2.	II - B.Sc BIO-TECH	U4RIBTAC6	BIO STATISTICS	6
3.	I - PHYSICS I - CHEMIST FY	U2RIPHAC2 U2RICHAC2	ALLIED MATHEMATICS - II	3+3
				18

	1	2	3	4	5
D ₁	II - BT			I - M.Sc	I - Chem
D ₂	I - Chem		I - M.Sc	II - BT	II - BT
D ₃		I - phy	I - M.Sc		
D ₄	I - Chem	II - BT	I - M.Sc	I - phy	I - phy
D ₅	I - Chem		I - M.Sc		
D ₆			II - BT		

Date: 16/5/22

Hour: 4

D.O: D,

Topic: Problem.

Solve the b.v. problem

$$-u'' + xu = 0$$

$$u(0) + u'(0) = 1, u(1) = 0$$

Using the approximating function

$$w(x) = 1 + (1-x)(a_1 + a_2x).$$

and the Ritz method.

Date: 16/5/22

Hour: 5

D.O: D,

Topic: Problem.

Solve the boundary value problem

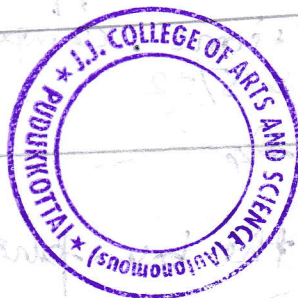
$$u'' + u = x, 0 < x < 1$$

$$u(0) = 0, u(1) = 0$$

Using the Ritz finite element method

with linear piecewise polynomials for two and three elements of equal lengths.

16/5/22
D.S. PRYDARSHINI, M.Sc., M.Phil., M.B.A., Ph.D.
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P. Muthuselvi, MSc, MPhil
 Assistant Professor
 J.J. College of Arts & Science (A)
 Department of Mathematics

Even semester (2021 to 2022)

SNO	CLASS	SUB. CODE	TITLE OF THE PAPER	HOURS
1.	IV MSc (M)	P2RIMTEQ	Numerical Analysis	6
2.	III BSc (M) 'A'	UGRIMTCC13	Complex Analysis	5
3.	I BCA 'A'	U2RIMORAC2	Operations Research	5
4.	III BCA 'A'	UGRICAID2	Quantitative Aptitude - II	2
5.	II BBA 'B'	U4RIBAAC6	Operations Research	4
6.	III Bot	UGRBOCCL3	Bio Instrumentation and Bio Statistics	1

	1	2	3	4	5
D ₁	III M 'A'	2			II M 'A'
D ₂		II BBA 'B'		III M 'A'	III Bot
D ₃	I BCA 'A'		III BCA 'A'		II BBA 'B'
D ₄	I BCA 'A'	II BBA 'B'	I BCA 'A'	III M 'A'	
D ₅	III M 'A'	I BCA 'A'		III BCA 'A'	
D ₆	III M 'A' (VAC)		II BBA 'B'		I BCA 'A'

Date : 12/5/22

Topic : Solved problems

D.O : D4

hour : I, III

3) Use graphical method to solve the LPP,

$$\text{Max } z = x_1 + x_2$$

Sub to :-

$$x_1 + x_2 \leq 1$$

$$-3x_1 + x_2 \geq 1/3$$

$$x_1, x_2 \geq 0$$

Date : 13/5/22

Topic : Simplex Method

D.O : D5

hour : II

1) Use simplex method to solve the LPP,

$$\text{Max } z = 3x_1 + 2x_2$$

$$\text{Sub to :- } x_1 + x_2 \leq 4$$

$$x_1 - x_2 \leq 2$$

$$x_1, x_2 \geq 0$$

Date

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D.O

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Ans: - $z = 11$ at $(3, 1)$

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2021 - 2022
 Even Semester

S.No.	Class	Sub. Code	Subject	Hrs
1	I MBA	PERIBACC8	Operations Research	6
2	I m.com	P2R1CMCC5	Quantitative Techniques	6
3	KSM		Operations Research.	

Hr D.O	I	II	III	IV	V
D ₁	I. MBA		I m.com	KSM	
D ₂		I MBA	I m.com	KSM	
D ₃		I MBA	I m.com	KSM	
D ₄	I MBA		I m.com	KSM	
D ₅			I m.com	KSM	I MBA

Date: 11/05/22
Day other: D3

Hours: 2

- * Generation of Random Numbers.
- * Monte Carlo method.
- * Simulation of Inventory problems.
- * Related problems.

Date: 12/05/22
Day other: D4

Hours: 2

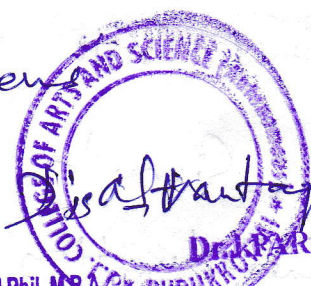
- * Queuing System
- * Related problems
- * Maintenance problems.
- * Investment & Budgeting
- * Related problems

Date: 13/05/22
Day other: D5

Hours: 2

- * Job Sequencing & Networks in Simulation.
- * Related problems

* Advantages & Disadvantages of



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EVEN SEMESTER - 2022

1. I M.Sc P2R1MTCC8 TOPOLOGY - 6
2. II M.Sc P4R1MTCC13 STOCHASTIC PROCESSES - 6
3. I BCA 'A' U2R1E2NMA23 NUMERICAL METHODS AND STATISTICS - 4
4. III BCA 'B' U6R1CAID22 QUANTITATIVE APTITUDE - II - 2

18

	1	2	3	4	5
D1		III BCA 'C'		II M.Sc	I CS 'B'
D2	III BCA 'C'		I M.Sc		
D3	I M.Sc		II M.Sc		II M.Sc

Date: 06-05-22

Topic: Numerical Integration

D.O: D6

Numerical Integration.

Using Trapezoidal and Simpson's $\frac{1}{3}$, $\frac{3}{8}$ rule evaluate $\int_{-1}^1 \frac{dx}{1+x^2}$ taking 8 strips. Compare with actual value.

66/05/2022

Date: 09-05-22

Topic: Numerical Integration.

D.O: D1

Numerical Integration.

Dividing the range into 6 equal parts find $\int_0^{\pi/2} \sin x dx$ by:

- i) Trapezoidal Rule.
- ii) Simpson's Rule.

Date: 12-05-22

Topic: Numerical Differentiation.

D.O: D4

Numerical Differentiation.

Problems:

Find the rate of growth of the population

Year(s): 1931 1941 1951 1961 1971

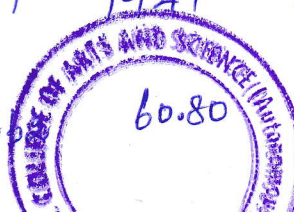
Population in thousands: 40.0

60.80

79.95

103.56

132.65



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Dr. T. KALAISELVI M.Sc., M.Phil., M.Ed.,

SET, Ph.D.,

ASSISTANT PROFESSOR

DEPARTMENT OF MATHEMATICS

EVEN SEMESTER - 2022

S.No	class	Title of the paper	Hours
1.	III B-sc Maths 'B'	Complex Analysis - UBRIMTCCB	5
2.	II M.Sc Maths	Advanced MATLAB - U2RIMNMAE3	6
3.	I BCA 'B'	Numerical Methods & Statistics	4
4.	III BBA 'A' III IT 'B'	Quantitative Aptitude - II UBRITIDCQ	1 2
			<u>18</u>

	1	2	3	4	5
D1	III M 'B'		II MSC	III IT 'B'	I BCA 'B'
D2			MATLAB ← III MSC →		
D3	I BCA 'B'		III BBA 'A'	III IT 'B'	
D4			III M 'B'	III M 'B' VAC	

Date: 13-05-2022

D.O: D5

Topic: Simpson's Rule

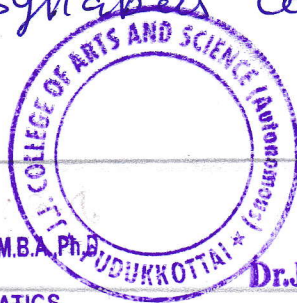
* Using Trapezoidal and Simpson's rule evaluate $\int_{-1}^1 \frac{dx}{1+x^2}$ taking

8 intervals

Syllabus completed

Dr. S. Priyadarshini
13/5/22

Date: 20



Dr. J. Parasuraman
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Date: 24-5-22

D.O: 24-5-22

Topic:

Even Semester
 [Nov-2021 - April 2022]

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 Assistant Professor,
 Department of Mathematics,
 JJC, Pudukkottai.

S.No	Class	Sub-code	Papers	Hour
1.	I MCA	P2R2CACCI1	Discrete Mathematics	05
2.	III B.Sc MATHS 'B'	U6R1M5MBE2	Graph Theory	05
3.	IV B.Sc MATHS 'A'	U6R1MTCL2P	MAT LAB	04
4.	I B.Sc CS 'C'	U2R1CSORA CA	Operations Research	05

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	I	II	III	IV	V	VI
D1		III M 'B'		I CS 'C'		-
D2	III M 'A'	III M 'B'	I CS 'C'			-
D3	III M 'B'	I MCA	I CS 'C'		III M 'B'	-
D4	← MAT LAB →			I MCA		-
D5	I MCA		I CS 'C'			-
D6	I MCA	III M 'B'			I MCA	I CS 'C'

Date: 11-05-22

Topic: Problems

D10: D3

① Solve $s(k) = 7s(k-1) + 10s(k-2) = 0$.

② If the sequence $a_n = 3 \cdot 2^n$, $n \geq 1$, then find the corresponding recurrence relation.

Date: 12-05-22

Topic: Generating Functions.

D10: D4

③ Solve $s(n+1) - 2s(n) = 4^n$, with $s(0) = 1$ and $n \geq 1$.

④ Find the generating function of Fibonacci sequence.

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Completed

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Department of Mathematics & Statistics
J.J. College of Arts and Science (A)

S.NO	CLASS	TITLE OF THE PAPER	HOURS
1.	II B.Sc Maths	Vector calculus & Fourier series [U4RIMTECB]	05
2.	I BCA 'A'	Numerical Methods and statistics [U2RIMNMAC3]	04
3.	I BBA	Business Mathematics and statistics [U2RIBAAC3]	05
4.	III B.Sc IT	Quantitative Aptitude - II [UBRICMIDC1]	02
5.	III BBA 'B'	Quantitative Aptitude - II [UBRICMIDC1]	02

D.O / Hour	I	II	III	IV	V
D ₁	II m	I BBA			I BCA 'A'
D ₂	I BBA	II m	III IT 'A'		
D ₃	II m	I BBA			I BCA 'A'
D ₄	I BBA	II m	III BBA 'B'	III IT 'A'	
D ₅	I BBA	III BBA		I BBA	

D.O: 25

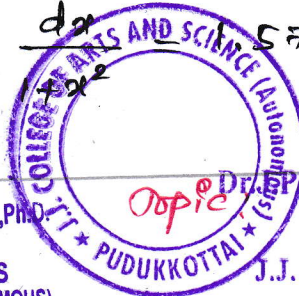
Hour: IV

* Using Trapezoidal rule and Simpson's rule evaluate $\int_{-1}^1 \frac{dx}{1+x^2}$ taking 8 intervals.

* Ans: (i) $\int_{-1}^1 \frac{dx}{1+x^2} = 1.5656$.

(ii) $\int_{-1}^1 \frac{dx}{1+x^2} = 5708$.

Signature
13/5/22



Signature

Date: 13/5/22
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 PUDUKKOTTAI - 622 422

Date:

Topic:

D.O:

Hour:

V. Kalpana
 Assistant Professor
 Even Semester
 (2021-2022)

S.No	Class	Sub Code	Title of the paper	Hours
1.	I B.Sc CIA	U2R1CSORAL2	Operations Research	5
2.	III Maths 'A'	U6R1M1TCC14	Linear Algebra	4
3.	III BOT	U6RB0CC13	Biostatistics	2
4.	I B.Ed	-	-	7

nsion

18

Time Table:

	I	II	III	IV	V
D ₁			III BOT		
D ₂	I CS 'A'				
D ₃		III M 'A'		I CS 'A'	I CS 'A'
D ₄	I CS 'A'		III M 'A'		

Q. No: 104

he: 8.

Use simplex method solve the Lpp

Max $Z = 3x_1 + 2x_2$ Subject to

$$4x_1 + 3x_2 \leq 12$$

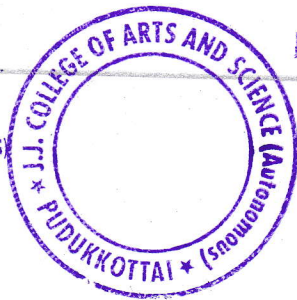
$$4x_1 + x_2 \leq 8$$

$$4x_1 - x_2 \leq 8 \quad x_1, x_2 \geq 0$$

Ans: The optimal solution is Max $Z = \frac{17}{2}$

$x_1 = 3/2, x_2 = 2$
16/5/22

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 PG & RESEARCH DEPARTMENT OF
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 PUDUKKOTTAI.

EVEN SEMESTER
 (2021 - 2022)

S-NO	CLASS	SUBJECT CODE	TITLE OF THE PAPER	HOURL
1	II B.Sc., MATHS	U4R1MTCCT	Differential Equations AND Laplace Transforms	5
2	III B.Sc., CS "B"	U6R1CSID2	Quantitative Aptitude - II	3
3	I B.Sc., CS "C"	U2R1CSNMAC3	Numerical Methods & Statistics	4
4	I B.Com (A) "C"	U2R1CMAC3	Business Statistics	5
Total Hours				17

HOURS DAY ORDER	1	2	3	4	5
D1		II M	III CS "B"		
D2	II M		I Bcom "C"	I CS "C"	
D3	← Lab III A →	II M	I Bcom "C"		I CS "C"
D4		← Lab III B →	I CS "C"	I CS "C"	I Bcom "C"
			" "	" "	" "

DATE: 09-05-22

DAY ORDER: 1

HOOR: 1

TOPIC: Number system

1. Convert 80 into its binary equivalent to

$$(80)_{10} = (1110000)_2$$

2. Convert 52 into its binary equivalent to

$$(52)_{10} = (111100)_2$$

DATE: 13-05-22

DAY ORDER: 5

HOOR: 1

TOPIC: Number system

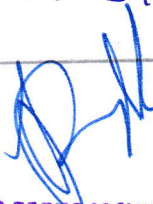
1. Convert the following binary number into their decimal equivalent

(i) $(11001)_2 = 25$

(ii) $(100010)_2 = 34$

(iii) $(110010)_2 = 50$

(iv) $(1010110)_2 = 46$


13/05/22

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 DEPT. OF MATHE-
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 J.J. COLLEGE OF
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S.No	CLASS	SUBJECT CODE	SUBJECT NAME	HOURS.
1	I P. Ed	U4RIPEAC6	STATISTICS	4
2	I Physics	U2RIHTAC3	ALLIED MATHE- -MATICS - III	6
3	I BCA "C"	U2RIMNMAC3	NUMERICAL METHODS AND STATISTICS.	4
4	I B. SC MATHS	U2RIMTCC3	ANALYTICAL GEOMETRY (3D) & INTEGRAL CALCULUS	4

TIME TABLE

Hour	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
D-0					
D1	I BCA "C"		I phy		
D2		I BCA "C"	I B.Sc. Maths		I phys
D3		I B.Sc Math	I B.Sc Math	II B.Sc Maths	I phy
9.20 - 10.15 I B.C.A "C"	I B.Sc Maths			II P. Ed	I B.Sc Maths
D4					
D5	II P. Ed				I phys

DATE: 9/5/22.

Serial No.

HOOR: I

D.O: D1

* Formula of Newton's forward interpolation

* Given

x	45	50	55	60
$\sin x$	0.7071	0.766	0.8192	0.866

~~Sol~~ Find $\sin 48^\circ$
sol: $\sin 48^\circ = 0.743$

DATE: 10/5/22.

TOPIC: Newton's backward

HOOR: II

D.O: D2

* Formula of Newton's backward interpolation

* Compute $f(3.6)$ from the following data:

x	0	1	2	3	4
y	0.412	0.368	0.135	0.05	0.018

sol: $f(3.6) = 0.0485$

DATE: 12/5/22.

TOPIC: Lagrange's formula

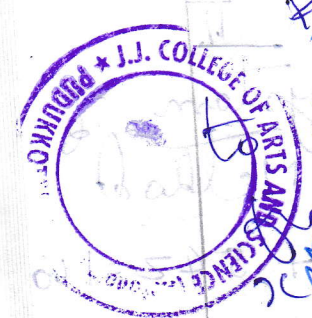
HOOR: I

D.O: D3

* Use Lagrange's formula

to find value of y at $x = 6$ from the following:

x	3	8	9	10
y	72	63	72	63



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J.J. College of Arts and Science

2021 - 2022

EVEN SEMESTER

S.No.	CLASS	SUB.CODE	SUBJECT TITLE	HOURS.
1	I M.Sc Maths	P2RIMTCC7	Partial Differential Equations	6
2.	I BCA 'C'	U2RIMORAC2	Operations Research	5
3.	II BBA 'A'	U4RIBAAC6	Operations Research	4
4.	III CS 'C'	UBRICSIDC2	Quantitative Aptitude - II	3

Total - (18)

HOURS D.O	1	2	3	4	5
D ₁	I M.Sc	I BCA 'C'			II BBA 'A'
D ₂	I BCA 'C'	I M.Sc		I M.Sc	
D ₃	II BBA 'A'	I BCA 'C'			
D ₄	I BCA 'C'		I BCA 'C'	III CS 'C'	I M.Sc
D ₅	II BBA 'A'	I M.Sc			III CS 'C'
D ₆			II BBA 'A'	I M.Sc	III CS 'C'

Date: 11-05-2022

Topic: Unit 1 Introduction to OR

Day Order: D3

Hour: 2

↳ Introduction

↳ Basics of OR

↳ OR & Decision Making

↳ Role of Computers in OR

↳ Linear Programming formulations

↳ Problems based on LPP.

Date: 12-05-2022

Topic: Graphical Method.

Day Order: D4

Hour: 1

1. Solve the following LPP by the graphical method

Maximize $z = 3x_1 + 2x_2$

Subject to

$-2x_1 + x_2 \leq 1; x_1 \leq 2; x_1 + x_2 \leq 3$ and $x_1, x_2 \geq 0.$

The optimum solution of the given LPP is
Max $z = 8$ at $(2, 1).$

↳ Some more cases in Graphical solution.

Date: 12-05-2022

Topic: Simplex Method

Day Order: D4

Hour: 3

↳ Basic Definitions

↳ Standard form

↳ Canonical form

↳ Problems.

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2021-2022 EVEN SEMESTER

S.No.	Class	SUB. CODE	Subject Title	HOURS
1.	II Msc Maths	PHRIMTECI4	Optimization Techniques	6
2.	II B.Sc Maths	U4RIMTSBEI	Theory of Games and Decision Theory	3
3.	I BCA 'B'	U2RIMORAC2	Operations Research	5
4.	III CS 'A'	UBRICSIDCI	Quantitative Aptitude - II	3
5.	III BBA	UBRIBAI DCI	Quantitative Aptitude - II	1

Total (18)

Hours D.O	1	2	3	4	5
D ₁		I BCA 'B'		III CS 'A'	II Msc
D ₂	I BCA 'B'			III CS 'A'	II Msc
D ₃		I BCA 'B'		II Msc	
D ₄	II Bsc mat		II Bsc mat	II Msc	
D ₅	II Bsc mat	I BCA 'B'	I BCA 'B'	II Msc	
D ₆	III BBA			III CS 'A'	II Msc

Date: 11-05-22 Topic: Simplex Method

Day Order: 23 Hour: 3

* Basic Definitions

* Standard form

* Canonical form

* Problems

Date: 13-05-22 Topic: Simplex Method

Day Order: 24 Hour: 2

① Solve the following problem using simplex method.

$$\text{Max } z = x_1 + x_2$$

$$\text{s.t.}, 3x_1 + 2x_2 \leq 15$$

$$x_2 \leq 2$$

$$\text{and } x_1, x_2 \geq 0$$

$$\text{Max } z = 2, x_1 = 0, x_2 = 2.$$

Date: 13-05-22 Topic: Canonical & Standard form.

Day Order: 24 Hour: 3

* Standard form of LPP

* Canonical form of LPP

13/05/22

Conversion
COLLEGE OF ARTS AND SCIENCE

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PRINCIPAL

College of Arts and Science

A. Priyanka
 Assistant professor
 Even Semester (2021-2022)

S.NO	Class	sub code.	Title of topics	Hours
1	III B.sc maths 'A'	U6R1MTMBE2	Graph theory	5
2	I B.com 'A'	U2R1CMAC3	Business statistics	5
3	I B.sc CS 'B'	U2R1CSORAC2	operations Research	5
4	III B.sc CS 'D'	U6R1CSIDC1	Quantative Aptitude.	3
Total				18

	I	II	III	IV	V
201			III Bsc CS 'D'	IBsc 'B'	I B.com 'A'
202	I CS 'B'	II CS 'D'		I CS 'B'	
203	III m 'A'	I CS 'B'	III m 'A'	IB.com 'A'	
204		IB.com 'A'	III CS 'D'		
205	III m	I B.com	III m		

Date 13.05.2022

Topic Chromatic Number.

Page No. 25

Hour. 1, 3

Finding maximal dominating set & chromatic polynomial definition are explained.

1. A graph of n vertices is a complete graph iff its chromatic polynomial is

$$P_n(\lambda) = \lambda(\lambda-1)(\lambda-2)\dots(\lambda-n+1).$$

Date 13.05.2022

Topic Chromatic Number.

Page No. 25

Hour. 1, 3

Let a & b 2 nonadjacent vertices in a graph G . Let G' be a graph obtained by adding an edge between a & b . Let G'' be a simple graph then the vertices a & b together & replacing sets of parallel edges with single edges then.

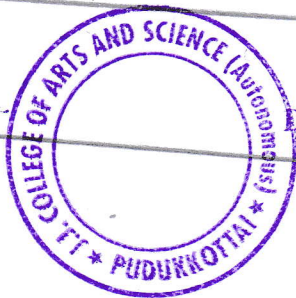
$$P_n(\lambda) \text{ of } G = P_n(\lambda) \text{ of } G' + P_{n-1}(\lambda) \text{ of } G''$$

Dr. S. PRIYADARSHINI, M.Sc., M.Phil., M.B.A., F...

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DEPARTMENT OF MATHEMATICS

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Dr. S. Priyadarshini
 Head
 Department of Mathematics
 J.J. College of Arts & Science (A)

Even

Nov 2021

I M.sc Mathematics - Algebra - II
 P2RIMTCCS - 06

III B.sc Mathematics (A & B) - SBE - 06 (3x02)
 - V6RIMTSBEB - 12

SBE - Foundation Mathematics for
 competitive examinations

	1	2	3	4	5
D ₁		I M.sc	I m.sc		
D ₂		III B.sc A	III B.sc (A)		
D ₃			I M.sc	III B.sc B	
D ₄			III B.sc B	I m.sc	
D ₅				I m.sc	
D ₆	III B.sc B	III B.sc A	I m.sc		

Date: 17-05-22

Day-order: DE

Class: V

Topic: Nilpotent operators

1. Find Jordan Canonical form of $A = \begin{bmatrix} 1 & 1 & 2 \\ 1 & 2 & 1 \\ 0 & 1 & 5 \end{bmatrix}$

Ans: $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 4 \end{bmatrix}$

2. Prove that the matrix $A = \begin{bmatrix} 1 & 1 & 1 \\ -1 & -1 & 1 \\ 0 & 0 & 0 \end{bmatrix}$ is nilpotent and find its Jordan form.

[Signature]
14/5/22

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[Signature]

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Dr. N. Meenal
Assistant Professor

Even-semester (2021
-2022)

NO	class	Sub. code	Title of the paper	Hours
1.	IB.SCI-T	U2RIITN MAC3	Numerical Methods & Statistics	5
2.	III B	U6RIMTCC 12P	Numerical Methods with MATLAB + Gender Studies	4 + ①
3.	I M.SC	U6RIGS P2RIMTCC6	Real Analysis - II	6
4.	III BCAB	U5RICA TDC2	Quantitative Aptitude - II	2
				<u>18.</u>

	I	II	III	IV	V
D1		I I.T		III B G.S	I (VAC) M-SC
D2	I M-SC		MBA B		I M-X
D3	I M-SC ← Latex lab →		I M-SC	II I.T	
D4	I M-SC		III BCA B		
	NUM Lab				I.T

Date: 4/5/22

Hr: III

D.O: D4

Topic: wrong Term

1. Find the wrong number in the series

3, 8, 15, 24, 34, 48, 63

Ans: 34 is wrong number

2. Find the wrong number in the series

10, 26, 74, 218, 654, 1946, 5834

Ans: 654.

$(218 \times 3) - 4 = 436$

Date: 10/5/22

Hr: II

D.O: D2

Topic: Coding

1. If in a certain language, TAP is coded as SZO, then how will FREEZE be coded?

Ans: EODDYD

⇒ Define coding

Date: 12/5/22

Hr: IV

D.O: D4

Topic: Decoding

1. In a certain Code Language, REFRIGERATOR is coded as ROTAREGIRFER

which would be coded as NOITINUMMAS



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AND STATISTICS

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SCIENCE (A)

PUDUKKOTTAI.

2022 EVEN SEMESTER

NO	CLASS	SUBJECT CODE	TITTLE	HOURS
①	I Maths UG	U2RISTAC2	SPSS	03
②	I B.Sc Maths	U2RIMTCC2	Probability and Statistics	05
③	I M.Sc Bio Technology	P2RIBCEC2	Bio-Statistics	05
④	II B.Sc Bio Technology		Bio statistics	05
				18

H	I	II	III	IV	V
B1		IM	II BT 'D'		I MSc BT
B2	IM	IM			I MSc BT
B3		← SPSS LAB →		II BT 'A'	I MSc BT
B4	IM	IM			I MSc BT
B5	IM		II BT 'D'	I MSc BT	II BT 'A'
B6	IM	IM			II BT

Day: 10/05/22

Hour: I, II

Day order: D2

Topic: Probability mass function.

Probability Mass function:

If X is a discrete random variable with distinct values x_1, x_2, \dots, x_n $P(x)$.

$$P(x)(x) = \begin{cases} P(x=x_i) = p_i & \text{if } x=x_i \\ 0 & \text{if } x \neq x_i; i=1,2,\dots \end{cases}$$

is called the probability mass function of r.v. X .

Day: 12/05/22

Hour: I

Day order: D4

Topic: Conditional distribution function

conditional probability function:

Let (X, Y) be a discrete two-dimensional random variable. Then the conditional discrete density function or the conditional probability mass function of X , given $Y=y$, denoted by $f_{X/Y}(x/y)$, is defined as:

$$P(x/y)(x/y) = \frac{P(X=x_i, Y=y)}{P(Y=y)} = \frac{1}{P(Y=y)} \sum P(X=x_i, Y=y)$$

$$= \frac{1}{P(Y=y)} P(X=y) = 1 \quad P(Y=y) \neq 0.$$

Day: 13/05/22

Hour: I

Day order: D5

Topic: Problem.

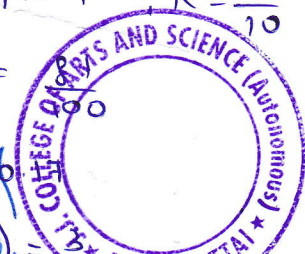
$$(i) 0+k+2k+2k+3k+k^2+2k^2+7k^2+k=1$$

$$k=-1 \quad ; \quad k=\frac{1}{10}$$

$$(ii) P(X < 6) =$$

$$(iii) P(X \geq 6) =$$

$$P(X \leq 3) =$$



J. Par

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K. Pushpavalli Msc, M.Phil
Assistant Professor.

Even Semester - (2021 - 2022).

S.No	Class	Sub code:	Title of the paper	Hrs
1.	III - B.Sc Maths 'B'	U6R1MTCC14	Linear Algebra	5
2.	I - B.Sc CS - 'A'	U2R1CSNMAC3	Numerical Methods and Statistics.	3
3.	I - B.Com 'B'	U2R1CMAC3	Business Statistics	5
4.	I - B.Sc Chemistry	U2R1MTAC3.	Allied Mathematics - <u>III</u>	4
				17.

an

Qo \ Hr	I	II	III	IV	V
Q1	III mb'		I B.com		
Q2	I chem	I chem	I B.com		
Q3	III B'	I B.com			
Q4	I chem	I 'A'	IV B	I B.com	

Date: 12/05/22 Topic: Aggregative method

Q.O: Q4 Ho: IV

Construct cost of living index for 2000 taking 1999 as the base year from the following data using Aggregative Expenditure Method.

Qty in (1999)	6	1	6	4	2	1
price (1999)	5.75	5	6	8	2	20
price (2000)	6	8	9	10	1	15

$CLI = 119.09$

Date: 12/05/22 Topic: problem.

Q.O: Q4 Ho: IV

using geometric mean, calculate the cost of living index number for the year 2000

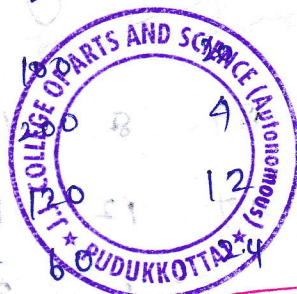
price (1990)	60	50	40	125	120
price (2000)	108	94	65	225	240
weight:	40	17	13	272	301

$CI = 179.51$

Date: 12/05/22 Topic: Family budget method.

Q.O: Q4 Ho: IV

Products	P ₀	Q ₀	P ₁	Q ₁
A	12	10	120	91
B	4	8	240	120
C	8	12	150	240
			50	150



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Dr. O. Uma Maheswari

Asst. Professor of Mathematics

[ODD SEM : JUNE 2021 - NOV 2021]

S.No	CLASS	SUB. CODE	TITLE OF THE PAPER	HOUR
1.	III B.Sc 'A' + AI	USR1MTMBE1	Operations Research	5
2.	III B.Sc CS 'C'	USRICBIDC1	IDC - Quantitative Aptitude - I	+5
3.	III B.Sc CS 'D'			6.
4.	I M. & Maths	PIR1MTCC1	Real Analysis - I	6

22

online

	1	2	3	4	5
D1	III A				
D2		III A			
D3		III A		III CS B	
D4	III BCA B			III A	
D5	III CS B			III BCA B	
D6		III CS B		III A	

SEP-1 Onwards offline

	1	2	3	4	5
D1	III CS B	III CS D	III CS D	III A2	III A1
D2	III CS B	III A	III CS D		
D3	III A1	III A	III A2	III CS D	
D4	III CS D			III A1	III A
D5		III A2			III CS C
D6	III CS B	III A2		III A1	

Date: 28-12-21

Topic: Complete metric spaces

D.O: D4

Complete Metric Spaces:

* Defn of Complete:

* The Cantor Intersection Theorem.

* Defn of Contracting Sequence:

Date: 29-12-21

Topic: Compact Metric Spaces.

D.O: D4

Compact Metric Spaces:

* Defn of Compact.

* Theorem:

If a metric space X is complete and totally bounded then it is compact.

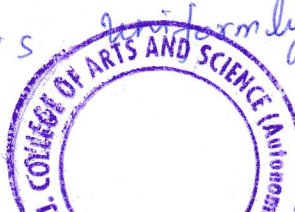
Date: 30-12-21

Topic: Theorem

D.O: D5

Theorem:-

A continuous mapping from a compact metric space (X, ρ) into a metric space (Y, σ) is uniformly continuous.



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Assistant professor,
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Pudukkottai.

S.No	Class	Subject	Subject Name	Hours
1.	II M.Sc Maths	P3R1MTCC9	Fluid Dynamics	6
2.	III B.Sc Maths 'A'	U5R1MTCC10	Real Analysis.	5
3.	III BCA	U5R1CAIDC1	Quantitative Aptitude - I	2
4.	I Phy/che	U2R1MTAC2	Allied Mathematics - II	6
5	I M.Sc	P1R1MTCC1	Algebra - I	3
				22

P.O.H	I	II	III	IV	V
D ₁		I M.Sc	II M.Sc	III A ₁	I
D ₂	II M.Sc			III BCA 'A'	III A ₁
D ₃	II M.Sc		I M.Sc	I Phy/che	I A ₁
D ₄	I M.Sc	III A ₁	I Phy/che	II M.Sc	
D ₅	I Phy	II M.Sc	III		

D.O: D4

Hour: 4

Condition for integrability first and second form.

Thm:-

Every continuous function is integrable

Thm:-

A bounded function which has only a finite number of points of discontinuity in $[a, b]$ is integrable in $[a, b]$

Date: 30/12/21

Topic: Theorems.

D.O: D5

Hour: 5

Thm:-

If f is monotonic in $[a, b]$, then it is integrable in $[a, b]$

Thm:-

If a bounded function

[Signature]
30/12/21

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OF V.
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odd

July 2021

S.NO	CLASS	SUB.CODE	TITLE OF THE PAPER	NO. OF HOURS
1	III B.Sc	USRIMTCCII	NUMERICAL METHODS	5
2	III ITA	USRITIDCI	QUANTITATIVE APTITUDE-1	2
3	III ITB	USRITIDCI	QUANTITATIVE APTITUDE-1	2
4	II IA	USRITORAC4	OPERATIONS RESEARCH	5
5	III B.com A	USRICHIDCI	QUANTITATIVE APTITUDE-1	2
6	I ^{B.Sc} Chem A-I	UIRIMTACI	ALLIED MATHEMATICS - I	6
				18

	I	II	III	IV	V
D1		I chem	II IT "A"	III IT "B"	
D2		I chem	III B	II B.com A	II IT A
D3	II IT "A"	II I.T. A	III B		I chem
D4	III B	III IT A		III IT "A"	
D5		II ITA	III B	I chem	III B.com A

DATE: 21/12/2021 TOPIC: REVISION

D.O: D1 REVISION: IV

* Using the interpolation formula, find $f(x)$ as polynomial in x .

x	-1	0	3	6	7
$f(x)$	3	-6	39	822	1611

Sol: $f(x) = x^4 - 3x^3 + 5x^2 - 6$

DATE: 28/12/2021 TOPIC: REVISION

D.O: D4 HOUR: III

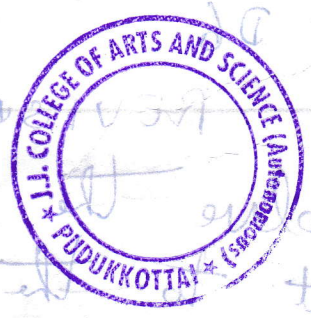
REVISION

* From the following data find $y(x)$, using cubic spline method

x	-2	-1	2	3
y	-12	-8	3	5

Sol: $y'(1.0) = 3.5273$

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 ASSISTANT PROFESSOR,
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2021 ODD SEMESTER
 JUNE - NOV

NO	CLASS	SUB CODE	Title	Hours
①	II B.Sc NB	V3RIMBACH	BIO STATISTICS	06
②	I B.Sc Maths	U2RISTACT	SPSS	04
③	II M.Sc Maths	P3RIMTEC3	Applied Mathematical Statistics	06
④	II M.Sc Microbiology	P3RIMBEC3	Bio statistics and Bioinformatics	04
⑤	III B.Sc Biochemistry	USRIBCIC1	Bio statistics	02
Total				22

TIME TABLE

D \ H	I	II	III	IV	V
D ₁		II M.Sc	II B.Sc NB 'A'		II B.Sc BC 'A'
D ₂	I B.Sc Maths		II M.Sc Maths		II B.Sc NB 'A'
D ₃	II B.Sc NB 'A'			II M.Sc Maths	
D ₄	IM ←	IM lab	SPSS		
		← IMaths	→ IM.Sc		
D ₅	II B.Sc NB 'A'	I M SPSS	III B.Sc BC		II M.Sc Maths
D ₆			II B.Sc	II M.Sc	

Date : 01/10/21

Hour : V

Day order : D₁

Topic : Correlation.

Correlation :

$$r = \frac{\sum xy - \bar{x}\bar{y}}{\sqrt{\left(\frac{\sum x^2}{n} - (\bar{x})^2\right) \left(\frac{\sum y^2}{n} - (\bar{y})^2\right)}}$$

* Types of Correlation.

* Properties of Correlation.

data.

Date : 10/10/21

Hour : V

Day order : D₁

Topic : Respected Rank Correlations Problem

① Calculate the Karl Pearson's coefficient from the following data.

x :	10	14	18	22	26	30
y :	18	12	24	6	30	36

$$r = \frac{\sum xy - \bar{x}\bar{y}}{\sqrt{\left(\frac{\sum x^2}{n} - (\bar{x})^2\right) \left(\frac{\sum y^2}{n} - (\bar{y})^2\right)}} \quad \therefore r = 0.600$$

Date : 11/10/21

Hour : III

Day order : D₅

Topic : Problems

② Calculate the Rank Correlation from the following data.

x :	1	2	3	4	5	6	7	8	9	10
y :	1	4	2	5	3	9	7	10	6	8

11/10/2021



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~~APR~~ 2021 - NOV 2021 - ODD SEMESTER.

S.No	Class	Subject code	Subject Name	Period
1	III-Maths 'A'	U5RIMTCC11	Numerical Methods	5
2	III-BCA ^(BSC) 'B' (IT)	U5RICA1001	Quantitative Aptitude - I	2
3	III-CS 'A' & A1	U5R1CS1001	Quantitative Aptitude - I	3
4	I-BCA 'A'	U1R1CSA11	Algebra and calculus	8
5	I CS 'A'	U1R1CSA11	Algebra and calculus	4

20

D ₀ \ H	I	II	III	IV	V
D ₁	III A1	III IT 'C'		III CS 'A'	III A2 SBE
D ₂	III A1	I BCA 'B'		III CS 'A'	III IT 'C'
D ₃	III CS 'A1'	III A2 SBE	II M.com		I BCA 'B'
D ₄	III CS 'A'		I BCA 'B'		III A1
				III	III

Date: 23/12/21

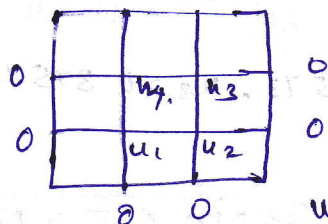
Topic: SOR Method.

Q.0: Q2

Ex: III

(i) Successive Over Relaxation method (SOR)

Q. Solve the equation $u_{xx} + u_{yy} = 0$ in the domain of given below by SOR method.



$$u_1 = 0.11785, u_2 = 0.12181, u_3 = 0.12181, u_4 = 0.37341$$

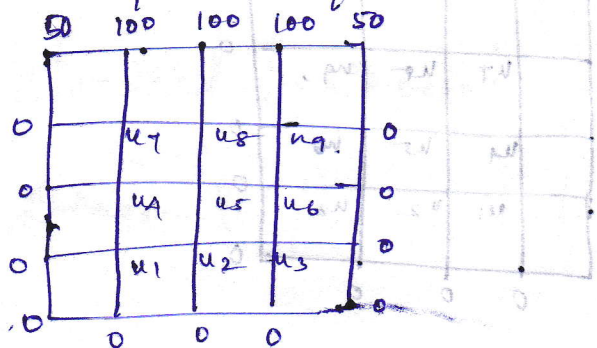
Date: 30/12/21

Topic: SOR Method.

Q.0: Q4

Ex: II

Q. Solve the Laplace's eqn for

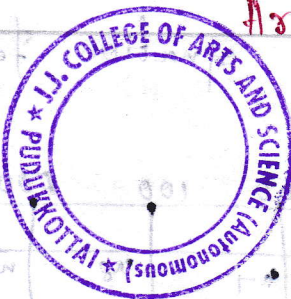


30/12/21

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2021-2022 - (ODD SEMESTER)

S.No	CLASS	SUBJECT CODE	SUBJECT NAME	PERIOD
1	III MATHS 'A'	USRIMTCL	MECHANICS	06
2	II B.COM.CA C & D	USRICMCCS	C LANGUAGE	10
3	I CA 'A'	UIRICSAI	ALGEBRA AND CALCULUS	4

20

TIME TABLE

H	I	II	III	IV	V
D ₀					
D ₁		III A ₁	I CS 'A'		II B.COM C
D ₂		II B.COM C	IV A ₁	I B.COM D	
D ₃	II B.COM C	III A ₁	II ICS B.COM D		
D ₄	III A ₁		I CS A		II B.COM D
D ₅		III A ₁		II B.COM C	II B.COM D
D ₆	II B.COM D	III A ₁	I CS 'A'	II B.COM C	

R

Date 27.12.2021

Topic Structure.

Day order 23

Hour - 2, 5

Definition of structure,
Declaration of structure, structure within structure
are explained.

Date 29.12.2021

Topic Structure.

Day order 24

Hour - 1, 5

Accessing structure members
Array of structure members.

Array with in structure.

[Signature]
30/12/21

[Signature]

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J.J. College of Arts and Science
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J.J. Nagar, Sivapuram Post,
PUDUKKOTTAI - 622 422



JUNE 2021 - NOV 2021

ODD SEMESTER

A. Anandaraj
 Assistant Professor,
 Department of Mathematics
 JJC, Pudukkottai.

S. NO	CLASS	Sub. code	Papers	Hours
1.	II M.Sc MATHS	P3RIMTCC12	Measure Theory and Integration.	06
2.	III B.Sc MATHS	V5RIMTSBE2	Quantitative Mathematics For Competitive Examination	02
3.	II B.Sc IT	V3RIITORACH	Operations Research	05
4.	I BCA	01RIMCAC1	Algebra & Calculus	02 02

~~15~~ 15

	I	II	III	IV	V
D ₁			IIIT	IIMSC	
D ₂	IIMSC	I BCA			IIIT
D ₃		IIIT		IIMSC	
D ₄		I BCA		IIIT	IIMSC
D ₅	III 'A'	IIIT			IIMSC
D ₆		IIMSC			III 'A'

Date: 26.10.21

Topic: Unit - 2
Revision.

D/O: D4

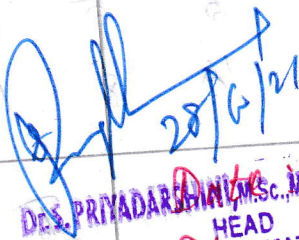
- * Simplex method - problems
- * Graphical method.
- * Standard form of L.P.P.
- * Formulation of L.P.P.

Date: 28.10.21

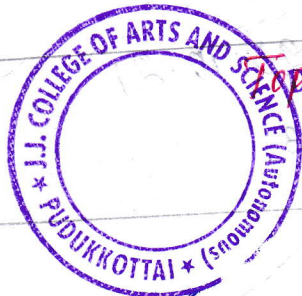
Topic: Unit - 3
Revision


D/O: D5

- * North - West corner method.
- * Least cost method
- * Vogel's approximation method
- * MODI method.


28/10/21

DR. PRIYADARSHINI, M.Sc., M.Phil., M.B.A., Ph.D.
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K. ARUN.
 ASSISTANT PROFESSOR
 DEPARTMENT OF MATHEMATICS.
 JJC, PUDUKKOTTAI.

2021 - 2022
 ODD SEMESTER

S.No.	CLASS	SUBJECT CODE	SUBJECT	Marks
1	III Maths 'B'	USRIMTCC8	Mechanics	06
2	II Maths 4B	USRIVE	Value Education	02
3	II B.Com B	U3RIVE	Value Education	02
4	I M.Sc computer science	PIRICSCC1	mathematical foundation for CS	06
5	I B.Sc CS	UIRICSA1	Algebra & calculus	02

Hr D.O	I	II	III	IV	V
D ₁			III 'B'	II B.Com 'B'	I B.Sc CSB
D ₂	III 'B'			I M.Sc CS	
D ₃	II M V.E		III 'B'		I M.Sc CS
D ₄			II M V.E	III 'B'	I M.Sc CS
D ₅		III 'B'			III 'B'

Date :- 28/12/2021

Topic :- Definitions & Examples

Day order :- 24

Unit - V Graph Theory

- * Introduction
- * Graphs
- * Isomorphism
- * Subgraphs
- * Degrees
- * Indegrees
- * Outdegrees.

Date :- 29/12/2021

Topic :- Theorems & Problems

Day order :- 24

- * Adjacency
- * Matrices
- * Incidence Matrices
- * Degree Vector of simple graph
- * Related Theorems & Problems.

Date :- 30/12/2021

Topic :- Definitions & Theorems

Day order :- 25

- * Paths
- * Circuits
- * Cycles
- * Spanning Trees
- * Related Problems

20/12/21
 D.S. PRIYADARSHINI, M.Sc., M.Phil., Ph.D.



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Dr. J. JOHN FLAVIA,
 M.Sc., M.Phil., P.G.D.C.A., Ph.D., SET.,
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 PG & Research Department of Mathematics,
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2021 - 2022
 ODD SEMESTER

S.No.	CLASS	SUB. CODE	SUBJECT	Hrs
1.	II M.Sc Maths	P3R1MTCCII	Complex Analysis	6
2.	II B.Com A & B	U3R1CMEC5	'C' Language	10
3.	I BSc 'CS' ✓	U1R1CSACI	Algebra & Calculus	2
				18

Hrs D.O	I	II	III	IV	V
D ₁		II B.com 'B'	II M.Sc	I M.Sc	II B.com 'A'
D ₂		II M.Sc	II B.com 'B'		
D ₃			II B.com 'A'		II M.Sc
D ₄		II B.com 'A'	I M.Sc	I B.com 'B'	
D ₅	II B.com	I	II	II B.com	

Date: _____ Topic: Problems on Higher Derivatives

Day Order: _____ Hour: _____

Determine the extremal of the functional

$$I[y(x)] = \int_{-a}^a (\frac{1}{2} \mu y''^2 + p y) dx \text{ that satisfies the boundary}$$

Conditions $y(-a) = 0, y'(-a) = 0, y(a) = 0, y'(a) = 0.$

$$F = \frac{1}{2} \mu y''^2 + p y$$

$$y = \frac{-pa^4}{24\mu} + \frac{pa^2 x^2}{12\mu} - \frac{p x^4}{24\mu}$$

Date: _____ Topic: Problem

Day Order: _____ Hour: _____

Determine the extremal of the functional

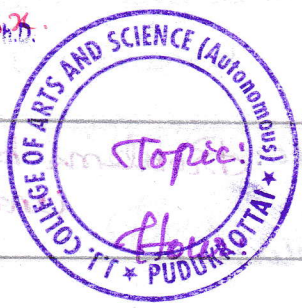
$$I[y(x)] = \int_0^{\sqrt{2}} (y''^2 - y^2 + x^2) dx, y(0) = 1.$$

$$F = y''^2 - y^2 + x^2$$

$$y = Ae^x + Be^{-x} + C \cos x + D \sin x$$

30/12/21

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Date: _____
Day Order: _____

Topic: _____

Hour: _____

S. Kanaka M. Sc., M. Phil.,
 Assistant Professor.
 Department of Mathematics
 J.J. college of Arts & Science.
 (A)

(June 2021 to Nov 2021) - Odd Sem

July 2021 (Even Sem)

S.NO	Class	Sub. code	Title of the Paper.	Hour
1.	II B.Sc MATHS	U3R1MTCC5 U3R1VE	Sequences And Series Value Education	06 02
2.	III B.Com "D" & A	U5R1COMIDC1	Quantitative Aptitude - I	02+02
3.	I B.Sc "IT"	U1R1MITAC1	Essential of Mathematics	07
4.	II B.Com	U3R1VE	Value Education	02

Hour / S.O	I	II	III	IV	V
D ₁			I "IT"	II m	
D ₂			II m	III B.Com "A"	
D ₃	I "IT"	II m		I "IT"	
D ₄		II m	III B.Com "D"		III B.Com "A"
D ₅		I "IT"		III B.Com "D"	

Date: 28.12.2021

Topic: Problem.

D.O: D4

Hour: I, V

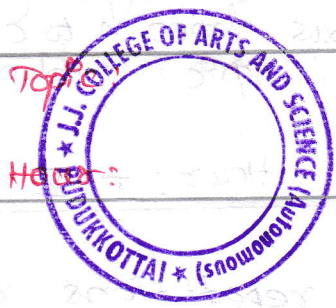
* There are twelve students in a class, In how many ways can the twelve students take three different tests if four students are to take each test?

* In how many can twelve students be partitioned into three teams, so that each team contains four students?

Dr. S. Priyadarshini
30/12/21

Dr. J. Parasuraman

Dr. S. PRIYADARSHINI, M.Sc., M.Phil., M.B.A., Ph.D.
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(Autonomous)
J.J. Nagar, Sivapuram Post,
PUDUKKOTTAI - 622 422

Date:

Topic:

D.O:

Hour:

S. PRIYADARSHINI

87

HEAD,

DEPARTMENT OF MATHEMATICS

J.J. COLLEGE OF ARTS & SCIENCE (A)

PUDUKKOTTAI.

I B.Sc Mathematics - Differential Calculus & Trigonometry - 06 (CUIRIMTCC1)	
III B.Sc Mathematics - Real Analysis - 05 (USRIMTCC1)	
I M.Sc Mathematics - Algebra - I - 04 (PIRIMTCC1)	
	<u>15</u>

ODD SEMESTER

	1	2	3	4	5
D ₁	I B.Sc Maths	I M.Sc			I B.Sc Maths
D ₂				I B.Sc Maths	III B.Sc Maths A ₂
D ₃	I B.Sc Maths			III B.Sc Maths A ₂	I B.Sc Maths
D ₄		I M.Sc		III B.Sc Maths A ₂	
D ₅	I B.Sc Maths		III B.Sc Maths A ₂		I M.Sc
			I B.Sc		III B.Sc

Date: 10/12/2021

Day: D3

How: I, &

Topic: curvature

Find the (p-r) equations for

(i) $r \sin \theta + a = 0$

(ii) $r = \frac{a}{2} (1 - \cos \theta)$

(iii) $r = a \cos \theta$

Date: 11/12/2021

Day: D3

How: I, &

Topic: curvature

Show that the pedal equation of the curve $r = a^\theta$ is of the form $P = K r$ where K is a constant

Date: 15/12/2021

Day: D5

How: I

Topic: curvature

Show that for any curve the chord of curvature perpendicular to the radius vector is

$2 p \left(1 - \frac{p^2}{r^2} \right)^{1/2}$

G. Par



INDEX

Name : V. Kalpana

Subject :

Std : Sec : Roll No.

School :

S.No.	Date	Title	Marks	Signature
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Time Table (VK)

S.No.	D ₁	D ₂	D ₃	D ₄	D ₅	D ₆
I	IBC'A	II M		II M		II M
II		IBC'A		III BCA'e	I phy	
III	I phy	IBC'A	II M	I phy		I phy
IV		III BCA'e		I BCA		
V	II M	I phy				IBC'A

S.No.	class	Subject Name	Sub. code	Period.
1	II Maths	Number theory	UBRIMT CCA	5
2	III BCA'A	Quantitative Aptitudes	UBRICA IEC1	2
3	I BCA'A	Algebra & Calculus	URICSACI	5
A	I Phy	Allied mathematics - I	URIMT ACI	6
				<u>18</u>

Date: 13.12.21

Topic: Problem.

Q.O: 24

Q: 1

Example: 1 Express 459 as sum of four squares.

Ex 2: Find the relation $a^2 + b^2 + 1 = bp$ for $p=19$ & hence show that

$$3 \times 19 = 4^2 + 4^2 + 4^2 + 3^2$$

Date: 15.12.21 Topic: Lagrange's problem.

Q.O: 25

Q: 1

Lagrange's problem:

Lagrange, L in 1770 stated that every integer can be written as the sum of four squares, nine cubes, nineteen fourth powers and so on.

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2021 - 2022

ODD SEMESTER

S.No.	CLASS	SUB. CODE	SUBJECT	Hrs
1.	III Maths 'B'	USRIMTCC9	Modern Algebra	5
2.	III Maths 'B'	USRIMTSBE2	Quantitative Mathematics	2
3.	I M.Sc Maths	PIRIMTECI	Calculus of Variations and Integral Equations	6
4.	I Bsc CS	UIRICSACI	Algebra and Calculus	5
				18

D.O	I	II	III	IV	V
D ₁	I.C.S 'B'	II B.Com A ₁		III B	I.C.S 'B'
D ₂	III 'B'		I M.Sc	III B	I.C.S 'B'
D ₃	II B.Com A ₁	III B			I M.Sc
D ₄		I M.Sc	III B (SBE)	II B.Com A ₁	
D ₅	I.C.S 'B'		II B.Com A ₁	I M.Sc	III B (SBE)

Date: 18-12-2021 Topic: Problems

Day Order: D6 Hour: 2

- ⑤ An aeroplane flies along the four sides of a square at the speeds of 200, 400, 600 and 800 km/hr. Find the average speed of the plane around the field.

Average speed = 384 km/hr.

Date: 21-12-2021 Topic: Problems.

Day Order: D1 Hour: 2

- ⑥ I walk a certain distance and ride back taking a total time of 37 minutes. I could walk both ways in 55 minutes. How long would it take me to ride both ways?

Ans = 19 min

Date: 23-12-2021 Topic: Unit - V

Day Order: D2 Hour: 1, 4.

Revision.

Priya
30/12/2021

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P. Muthuselvi M.Sc., M.Phil.,
 Assistant professor
 PG & Research Department of Mathematics
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 Pudukkottai.

(June 2021 to Nov 2021) - Odd sem

S. NO	CLASS	SUB CODE	TITLE OF THE PAPER	Hour
1	III BSc Maths 'B'	USRIMTBFI	Operations Research	5
2	III BCA 'C'	USRIBAIDCI USRICAIDCI	Quantitative Aptitude	6
3	III BBA 'A'			
3	III BBA 'B'			
4	I MSC Maths	PIRIMTCC3	Ordinary differential Equations.	6
5	III BSc Maths 'A'	USRIMTCCII	Numerical Methods	5
				<u>22</u>

D/H	1	2	3	4	5
D1	III MB		III M A2	III BBA A	
D2		III MB	III BBA B	II BCA IC1	
D3			III BBA B		III M IA2
D4	III MA2	III BCA IC1	III BBA A		I MB
D5	III MB'			III M A2	

Date : 16/12/2021 Topic : Solved problems

D.O : D5 Hour : ~~tt~~

3) Use dual simplex method to solve

$$\text{Max } z = 2x_1 + 3x_2$$

$$\text{Sub to: } - 2x_1 - x_2 - x_3 \geq 3$$

$$x_1 - x_2 + x_3 \geq 2$$

$$x_1, x_2, x_3 \geq 0$$

Date : 18/12/2021 Topic : Solved problems

D.O : D6 Hour : ~~tt~~

4) Show that the following LP has a feasible solution but no finite optimal solution.

$$\text{Max } z = 3x_1 + 2x_2$$

$$\text{Sub to: } - x_1 - x_2 \leq 1$$

$$x_1 + x_2 \geq 3$$

$$x_1, x_2 \geq 0$$

Date : 28/12/2021 Topic : Revision

D.O : D4 Hour : I

Revision



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College of Arts and Science

I. D.

Dr. N. Meenal
 Assistant professor
 PG and Research Department
 of Mathematics
 J. J. C (A), Pudukkottai

S.NO	CLASS	TITLE / CODE	HRS
1.	III B'S CA U5RIMTCC9	MODERN ALGEBRA A1 A2	5 5
2.	III Bcom CD U5RICMIDI	QUANTITATIVE APTITUDE - 1	2 2+1
3.	I M-SC MATHS PIRIMTECI	CLASSICAL MECHANICS	6
4.	III B'S CBHY UIRISTACI	Q.A - I MATHEMATICS - II	1
			<u>21</u>

	I	II	III	IV	V
D1	I-M-SC	III A2		III Bcom C	III B-com B
D2	I-M-SC	III A2		III A1	
D3			III A1	I-M-SC	III A1
D4		III A2	III A1	I-M-SC	III CS

Date: 29.12.21

Hv: I

D.O: D4

Topic: Variational principle

1.

$$\delta F = \delta \int_{t_1}^{t_2} (p_j \dot{q}_j - H(q, p, t)) dt = 0$$

2n Euler-Lagrange equations

$$\frac{d}{dt} \left(\frac{\partial b}{\partial \dot{q}_j} \right) - \frac{\partial b}{\partial q_j} = 0 \quad ; \quad j = 1, 2, \dots, n$$

$$\frac{d}{dt} \left(\frac{\partial b}{\partial \dot{p}_j} \right) - \frac{\partial b}{\partial p_j} = 0 \quad ; \quad j = 1, 2, \dots, n$$

Date: 30.12.21

Hv: IV

D.O: D5

Topic: Principle of least-action

1. By Lagrange's Equations the quantities in the square brackets vanish,

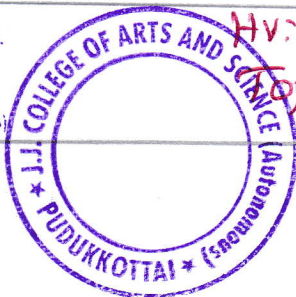
$$\delta \int_{t_1}^{t_2} L dt = \delta L dt + (p_j \delta q_j)^2$$

2. Assumptions made in principle of least-action.

3. $\delta \int_{t_1}^{t_2} p_j \dot{q}_j dt = 0$ is the Principle of least action.

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