SATYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(NAAC Accredited, Approved by A.I.C.T.E, & Permanently Affiliated to JNTU, Kakinada)
Gajularega, Vizianagaram, Andhra Pradesh 535002
Tele Phone No. : 9676788811/33/44, Land Line: 08922-234775/76/74
E-Mail: sitam@sitam.co.in Website: www.sitam.co.in

Saturday, October 17, 2022

INSTITUTE ACADEMIC CALENDAR FOR B.TECH II/III/IV YEAR (2022-23)

I SEMESTER			
Date		Description	Weeks
From	To		
17.10.22		Commencement of Class Work	
26-10-2022	17-12-2022	1 Unit of Instructions	7Weeks
19-12-2022	24-12-2022	1 Mid Examinations	1Week
25.12.2022		**Indian armed forces flag day celebrations by NCC**	
1st week of Nov 2022		Technical Workshop/Conference /Seminar– Dept of Civil Engg	
3rd week of Nov 2022		Technical Workshop/Conference /Seminar – Dept of CSE	
1st week of Dec 2022		Technical Workshop/Conference /Seminar – Dept of Mech Engg	
29-12-2022	15-02-2023	2 Unit of Instructions	7Weeks
22 Dec 2022		Mathematics day by dept of HBS	
24 dec 2022		Christmas celebrations	
12th January 2023		National youth day celebrations by Dept of CSE	
13th January 2023		Sankranthi Sambaralu celebrations by Dept of EEE	
26th january 2023		Republic DAy celebrations	
29th January 2023		Botsa Guru naidu	
13-02-2023	18-02-2023	2 Mid Examinations	1Week
24-02-2023	25-02-2023	Preparation & Practicals	1Week
01-03-2023	12-03-2023	End Examinations	2Weeks
1st week of January 2022		Technical Workshop/Conference /Seminar – Dept of ECE	
2nd week of January 2022		Technical Workshop/Conference /Seminar – Dept of EEE	
26th January 2022		Republic Day Celebrations - NCC	
29th January 2022		Sri Botcha Gurunaidu and Sri Majji Ramarao memorial scholarship awards - Dept of ECE	

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Dr.D.V.Rama Murthy
Principal
Satya Institute of Technology and Management (SITAM)
Gajularega, Vizianagaram

Principal

Dr.D.V.RAMAMURTHY
Principal
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Website: www.sitam.co.in

Saturday, March 15, 2023

INSTITUTE ACADEMIC CALENDAR FOR B.TECH II/III/IV YEAR (2022-23)

II SEMESTER			
Date		Description	Weeks
From	To		
20-03-2023		Commencement of Class Work	
30-03-2023	13-05-2023	1 Unit of Instructions	7Weeks
2nd week of April 2022		Technical Workshop/Conference /Seminar – Dept of ECE	
22nd April 2022		Worlds Earth Day Celebrations by Dept of Civil Engg	
1st week of April 2023		Technical Workshop/Conference /Seminar – Dept of Civil Engg	
2nd week of April 2023		Technical Workshop/Conference /Seminar – Dept of Mech Engg	
3rd week of March 2022		Technical Workshop/Conference /Seminar – Dept of CSE	
08-05-2023	13-05-2023	1 Mid Examinations	1Week
15-05-2023	15-07-2023	2 Unit of Instructions	7Weeks
21st June 2022		International Yoga Day Celebrations by NCC	
2nd week of june 2023		Technical Workshop/Conference /Seminar – Dept of Mech Engg	
Last weel of june2023		Technical Workshop/Conference /Seminar – Dept of CSE	
1st week of july 2023		Technical Workshop/Conference /Seminar – Dept of EEE	
03-07-2023	08-07-2023	2 Mid Examinations	1Week
10-07-2023	15-07-2023	Preparation & Practicals	1Week
24-07-2023	01-08-2023	End Examinations	2Weeks

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VIZIANAGARAM

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Directorate of Academic Planning
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY- GURAJADA-VIZIANAGARAM
VIZIANAGARAM – 535 003 Andhra Pradesh (India)
(Established by Andhra Pradesh Act No.22 of 2021)

Date: 04 /03/2023

Dr. K. Chandra Bhushana Rao
M.E., Ph.D
Professor of Electronics and Communication Engineering
Director i/c, Academic and Planning.

To
All the Principals of Affiliated Colleges,
JNTUGV, Vizianagaram

Academic Calendar for I Year II Semester MBA and MCA for the Academic Year 2022-23

II SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Class Work	**20.03.2023**		
I Unit of Instruction	20.03.2023	06.05.2023	8W
I Mid Examinations	08.05.2023	13.05.2023	1W
II Unit of Instructions	15.05.2023	01.07.2023	8W
II Mid Examinations	03.07.2023	08.07.2023	1W
Preparation &.Practical's	10.07.2023	15.07.2023	1W
End Examination	17.07.2023	29.07.2023	2 W
Note: Calendar Is Prepared With 8 Hour/Day Hence 7 Week Per Instruction Period			

DAP i/c, JNTUGV

Prof. K.C.B.Rao
Director, Academic and Planning (DAP)
JNTUGV-VIZIANAGARAM-535003

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Website: www.jntuk.edu.in
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Directorate of Academic Planning
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA 533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Dr. No. JNTUK/DAP/AC/II Year MBA/2022-23 Date: 14-09-2022

Dr. KVSG Murali Krishna,
M.E. Ph.D
Director, Academic Planning
JNTU K, Kakinada

To
All the Principals of Affiliated Colleges,
JNTU K, Kakinada.

Academic Calendar of II Year MBA for Academic year 2022-23

I SEMESTER			
Description	**From**	**To**	**Weeks**
Commencement of Project Work	**06.10.2022**		
Project Work	06.10.2022	05.11.2022	5W
I Unit of Instruction	07.11.2022	31.12.2022	8W
I Mid Examinations	26.12.2022	31.12.2022	
II Unit of Instructions	02.01.2023	25.02.2023	8W
II Mid Examinations	20.02.2023	25.02.2023	
Preparation, Practicals & End Examinations	27.02.2023	11.03.2023	2W
Commencement of II Semester Class Work	**13.03.2023**		
II SEMESTER			
I Unit of Instructions	**13.03.2023**	06.05.2023	8W
I Mid Examinations	01.05.2023	06.05.2023	
II Unit of Instructions	08.05.2023	01.07.2023	8W
II Mid Examinations	26.06.2023	01.07.2023	
Preparation, Practicals & End Examinations	03.07.2023	15.07.2023	2W
Note: Calendar is prepared with 8 hrs/day hence 7 weeks per instruction period			

***Out of the Total 45 Days Project work 5 weeks will be offline and remaining project work can be done during the II-I semester weekends and holidays.**

Director
Academic Planning
JNTUK Kakinada

Director, Academic Planning

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY- GURAJADA-VIZIANAGARAM
VIZIANAGARAM – 535 003 Andhra Pradesh (India)
(Established by Andhra Pradesh Act No.22 of 2021)

Date: 21/07/2023

Dr. K. Chandra Bhushana Rao
M.E., Ph.D
Professor of Electronics and Communication Engineering
Director i/c, Academic and Planning,

To
All the Principals of Affiliated Colleges,
JNTUGV, Vizianagaram

Academic Calendar for II Year MBA for the Academic Year 2023-24

I SEMESTER			
Description	**From**	**To**	**No. of weeks/days**
Commencement of Class Work	01.08.2023		
Instruction Period for the Semester	01.08.2023	25.11.2023	17w
Examinations			
I Mid Examinations	21.09.2023	23.09.2023	3 days
II Mid Examinations	23.11.2023	25.11.2023	3 days
Preparation &.Practicals	27.11.2023	02.12.2023	1w
End examinations	04.12.2023	16.12.2023	2w
II SEMESTER			
Description	**From**	**To**	**No. of weeks/days**
Commencement of Class Work	18.12.2023		
Instruction Period for the Semester	18.12.2023	13.04.2024	17w
Examinations			
I Mid Examinations	15.02.2024	17.02.2024	3 days
II Mid Examinations	10.04.2024	12.04.2024	3 days
Preparation &.Practicals	15.04.2024	20.04.2024	1w
End examinations	22.04.2024	04.05.2024	2w

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Prof. K.C.B.Rao
Director, Academic and Planning (DAP)
JNTUGV-VIZIANAGARAM-535003

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SATYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT ★ VIZIANAGARAM

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DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

I B.TECH I SEM (R23) I-MID EXAMINATIONS NOV-2023

SUBJECT NAME : APPLIED CHEMISTRY	
I B.TECH I SEM	Subject Code :
BRANCH : **ECE**	
	TIME : 90 MIN
Max.Marks :30M	FACULTY NAME : **J.S.SAILAJA**
All questions carry equal marks**Answer all questions.	

(Q1) Derive Schrodinger time Independant wave Equation

[10M]

Course Outcome -	Program outcome
Obtain the knowldge of Quantum Mechanics	Apply the Knowledge of Maths and Science

Or

(Q1) b. Draw Molecular Orbital diagram of CO .Calculate bond order

[10M]

Course Outcome -	Program outcome
Obtain the knowldge of Molecular orbitals conductors Types of semiconductors	Apply the Knowledge of Maths and Science

(Q2) (Q2) a.Explain about Full wave Rectifier andHalf Wave Rectifier

(Q3) differences between Type 1 and Type 2 superconductors (any 5)

[10M]

Course Outcome -	Program outcome
Compare the materials of construction Types of semiconductors	Apply the Knowledge of Maths and Science

Or

(Q2) b.Prepation Methods of Semiconductors .types of semi conductors

[10M]

Course Outcome -	Program outcome
Summerize the prep of semi conductors Types of semiconductors	Apply the Knowledge of Maths and Science

(Q4) (Q3) a .Benzne Molecular Orbital diagram with Explanation

[10M]

Course Outcome -	Program outcome
: Compare the materials of construction Knowledge ofMolecular Orbital Theorey	Apply the Knowledge of Maths and Science

Or

(Q3) b. What are Super Capacitors ?explain Types ,Preparation applications

[10M]

Course Outcome -	Program outcome

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DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

I B.TECH II SEM (R20) I-MID EXAMINATIONS APR-2023

SUBJECT NAME : Mathematics - II	
I B.TECH II SEM	Subject Code : R201101
BRANCH : **Common to ALL branches except EEE**	
DATE : 24-04-2023	TIME : 10.00 AM TO 12.00 PM
Max.Marks :30M	FACULTY NAME : **A. ANIL KUMAR**
All questions carry equal marks**Answer all questions.	

(Q1)a) Find the rank of the matrix A by reducing into normal form, where $A = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 2 & 1 & 4 & 3 \\ 3 & 0 & 5 & -10 \end{bmatrix}$ [6 M]

Course Outcome -01	Program outcome-01

b) Solve the equations $x + y + z = 6$; $3x + 3y + 4z = 20$; $2x + y + 3z = 13$ by Gauss-Elimination method. [4 M]

Course Outcome -01	Program outcome-02

(Q2)Verify Cayley-Hamilton theorem and hence find A^{-1} and A^4, where $A = \begin{bmatrix} 3 & 1 & 1 \\ -1 & 5 & -1 \\ 1 & -1 & 5 \end{bmatrix}$ [10 M]

Course Outcome-01	Program outcome-01

(Q3)a) Using Bisection method, find a real root of the equation $x^3 - 5x + 3 = 0$. [6 M]

Course Outcome-02	Program outcome-03

b) Find Eigen values of the matrix $A = \begin{bmatrix} 2 & 2 & 1 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{bmatrix}$ [4 M]

Course Outcome-01	Program outcome-01

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Department of Basic Sciences and Humanities
I-B.TECH II-SEM(R20) II-MID EXAMINATIONS JULY- 2023

SUBJECT NAME : APPLIED CHEMISTRY	
I B.TECH II SEM	Subject Code : **R201215**
BRANCH : **EEE, ECE & AIDS**	
DATE :	TIME : 1 ½ hours
Max .Marks :30M	FACULTY NAME : **J.S.SAILAJA**
All questions carry equal marks** Answer all questions.	

1. 1.(a) **Analyse the types of Liquid crystals**
   (b) .Explain about Absorption laws

COURSE OUTCOME-03	PROGRAMME OUTCOME-01
Summarize the preparation of semiconductors; analyze the applications of liquid crystals and superconductors.	Apply the knowledge of mathematics and sciences.

2. (a) **.Discuss the Working of Photovoltaic cell.**

   (b) Analyse structure of Catenanes and Rotaxanes

COURSE OUTCOME-04	PROGRAMME OUTCOME-01
Analyze the principles of different analytical instruments and their applications	Apply the knowledge of mathematics and sciences

3..(a).**Write Procedure and Applications of CT Scan .**

(b)Write any 2 methods for preparation of CNT's

COURSE OUTCOME-05	PROGRAMME OUTCOME-01
Obtain the knowledge of computational chemistry and molecular machines	Apply the knowledge of mathematics and sciences

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DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

I B.TECH II SEM (R20) I-MID EXAMINATIONS APR-2023

SUBJECT NAME : APPLIED PHYSICS	
I B.TECH II SEM	Subject Code : R201207
BRANCH : **EEE, ECE & AIDS**	
DATE :	TIME : 1 ½ hours
Max.Marks :15M	FACULTY NAME : **G. RAVI PRASAD**

All questions carry equal marks**Answer all questions.

(Q1) Explain the formation of Newton's rings with neat diagram and also calculate diameter of bright and dark rings? 5M

Course Outcome -01	Program outcome-01
Identify the applications of interference in engineering.	Apply the knowledge of mathematics and sciences.

(Q2) Explain construction and working principle of He- Ne laser system? 5M

Course Outcome-02	Program outcome-01
Describe the construction and working principles of various types of lasers.	Apply the knowledge of mathematics and sciences

(Q3) Derive the Schrodinger time independent and dependent wave equations? 5M

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Course Outcome-03	Program outcome-01
Identify the role of Schrodinger's time independent and dependent wave equations.	Apply the knowledge of mathematics and sciences

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INSTITUTE OF TECHNOLOGY AND MANAGEMENT

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III-B.TECH II-SEM II-MID EXAMINATIONS – May 2023
SET-II
CIVIL ENGINEERING

Subject Code: R203201A **Subject Name: ASA**

Date: 11-05-2023 **Duration : 90 min**
ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

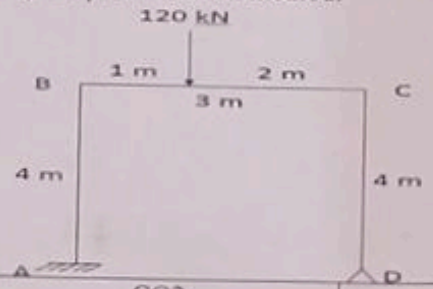
1. A suspension bridge is suspended from two piers 150 m apart. The cable carries a uniformly distributed load of 10 kN/m and has its lowest point 9 m below the lower support. The ends of the cable are passed over rollers at the top of the piers and the backstays are inclined at 60^0 to the horizontal. Determine (a) max tension in the cable, (b) tension in the backstays (c) Vertical thrust on each pier.

PO1	CO2	7 M

2. A two hinged stiffening girder of a suspension bridge of span 100 m is subjected to two point loads of 240 kN and 300 kN at 25 and 80 m from left end. Find the shear force and bending moment at 40 m from the left end. Dip of the cable is 12 m. Find the max tension in the cable.

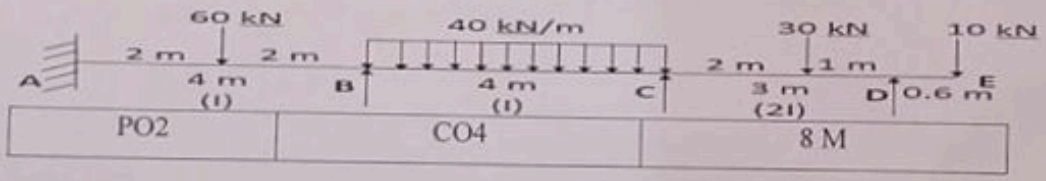
PO1	CO3	7 M

3. Analyse the following frame by Slope Deflection method.



PO1	CO2	8 M

4. Find the support moments for the following beam using Kani's method.



PO2	CO4	8 M

Name of the paper-setter: **P. Sarath**	Department of the Paper-setter: **Civil**
Date: **06-05-2023**	Signature of the paper-setter:

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III-B.TECH II-SEM II-MID EXAMINATIONS – May 2023

Subject Code: R203201A **SET-I** **Subject Name: ASA**

CIVIL ENGINEERING

Date: 11-05-2023 **Duration : 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

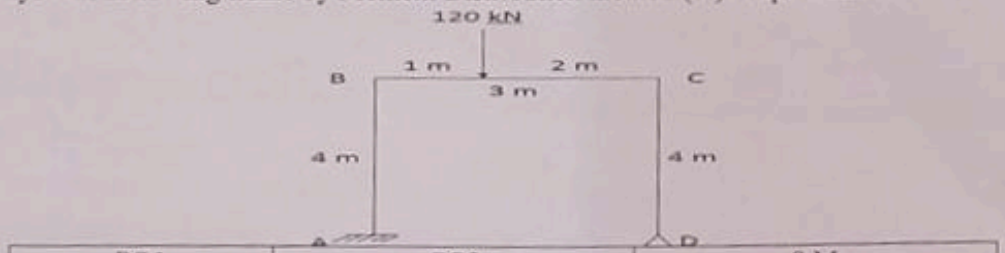
1. A suspension bridge is suspended from two piers 196 m apart, one support being 7 m above the other. The cable carries a uniformly distributed load of 15 kN/m and has its lowest point 9 m below the lower support. The ends of the cable are attached to rollers at the top of the piers and the backstays are inclined at 300 to the horizontal. Determine (a) max tension in the cable, (b) tension in the backstays (c) Vertical thrust on each pier.

PO1	CO2	7 M

2. A three hinged stiffening girder of a suspension bridge of span 120 m is subjected to three point loads of 120 kN, 240 kN and 300 kN at 10, 25 and 80 m from left end. Find the shear force and bending moment at 40 m from the left end. Dip of the cable is 12 m. Find also the max tension in the cable.

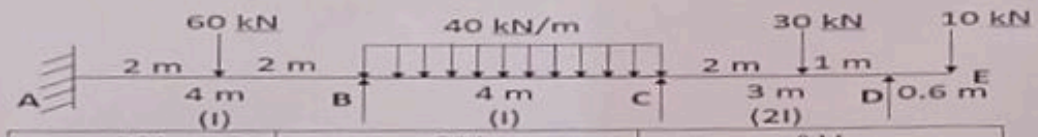
PO1	CO3	7 M

3. Analyse the following frame by Moment Distribution method (or) Slope Deflection method.



PO1	CO2	8 M

4. Find the support moments for the following beam using Kani's method.



PO2	CO4	8 M

Name of the paper-setter: **P. Sarath**	Department of the Paper-setter: **Civil**
Date: **06-05-2023**	Signature of the paper-setter:

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SATYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT ★ VIZIANAGARAM

Dr.D.V.Rama Murthy
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II-B. TECH I-SEM I-MID EXAMINATIONS – NOV 2022

Subject Code: R2021014 **Subject Name: Surveying & Geometrics (set 2)**

CIVIL ENGINEERING

Date: 5-1-2023

ANSWER ALL QUESTIONS **Duration: 90 min**

TOTAL MARKS : 30

(Q1) a) Explain what determines the nature of the curves. Classify them with examples?.(6M)

PO1	CO1,2	6marks

b) What are advantages of a tachometric surveying over other methods? (4M)

PO1	CO1,2	4 marks

(Q2) a) What are the applications of GPS? (5M)

PO1,2	CO1,2,3	4 marks

b) What is the principle of EDM and explain types of EDM instruments (5M)

PO1,2	CO2,3	4 marks

(Q3) a) What is Photogrammetrey? Explain its merits and demerits when compared with other? (5M)

PO1,2	CO2,3,4	4 marks

b) Explain the following:
a) Terrestrial photogrammetry,
b) Aerial triangulation and (5M)

PO1,2	CO2,3,4	4 marks

Name of the paper-setter: **M.Bhargavi**	Department of the Paper-setter: **Civil**
Date: **5-1-2023**	Signature of the paper-setter: M.Bhargavi

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Telephone No:9676788811, 8978812341/2, Land Line: 08922-234775

II-B. TECH I-SEM I-MID EXAMINATIONS – NOV 2022

Subject Code: R2021014 **Subject Name: Surveying & Geometrics (set 2)**

CIVIL ENGINEERING

Date: 5-1-2023 **Duration: 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

(Q1) a) Define surveying and explain the principles of surveying.(6M)

PO1	CO1,2	6marks

b) Convert the following whole circle bearings to quadrantal bearings.

(i) 350^0 12' (ii) 117^0 24' (iii) 68^0 51' (iv) 212^0 04' (4M)

PO1	CO1,2	4 marks

(Q2) a) Explain the principle of levelling & A page of level book is reproduced as shown in Table in which some readings marked as(×),are missing. Complete the page with all arithmetic checks. (5M)

Station	B.S.	I.S.	F.S.	Rise	Fall	R.L.	Remarks
1	3.150				×		
2	1.770		×		0.700	×	C.P.
3		2.300			×	×	
4	×		1.860	×		×	C.P.
5		2.440			0.010	×	
6	×		×	1.100		×	C.P.
7	1.185		2.010	×		222.200	C.P.
8		2.720		×		×	
9	×		1.685		4.430	×	C.P.
10			1.525		0.905	×	
Σ	12.055		×	×			

PO1,2	CO1,2,3	4 marks

b) What are the methods of contours, explain any one method with neat sketch (5M)

PO1,2	CO2,3	4 marks

(Q3) a) Draw a neat sketch of theodolite and describe purpose of various components?(5M)

PO1,2	CO2,3,4	4 marks

b) Explain the horizontal measuring angles by repetition method? (5M)

PO1,2	CO2,3,4	4 marks

Name of the paper-setter: **M.Bhargavi**	Department of the Paper-setter: **Civil**
Date: **17-11-2022**	Signature of the paper-setter:

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III-B. TECH I-SEM I-MID EXAMINATIONS – SEPTEMBER 2022

Subject Code:R2031012 **Subject Name: DDRCS (SET – I)**

CIVIL ENGINEERING

Date:27-09-2022 **Duration: 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS: 30**

(Q1) Briefly explain about balanced, under reinforced and over reinforced sections.

PO1	CO1	10 marks

(Q2)A reinforced concrete beam 200mm wide and 400mm effective depth is used over an effective span of 5m. It is subjected to a UDL of 5kN/m inclusive of its own weight. Find the necessary steel reinforcement at the centre of the span. Take allowable stresses in steel and concrete as130N/mm^2 and 4N/mm^2 respectively, and m=16.

PO3	CO1	10 marks

(Q3) A rectangular beam is 20cm wide and 40cm deep up to the centre of reinforcement. Find reinforcement required if it has to resist a moment of 40kNm. Assume M20 mix and Fe 415 grade steel.

PO2	CO1	10 marks

Name of the paper-setter: K Gayatri Kiran	Department of the Paper-setter: **Civil Engineering**
Date:**24-09-2022**	Signature of the paper-setter: GK

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III-B. TECH I-SEM I-MID EXAMINATIONS – SEPTEMBER 2022

Subject Code:R2031012 **Subject Name: DDRCS (SET –I I)**

CIVIL ENGINEERING

Date:27-09-2022 **Duration: 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS: 30**

(Q1) A reinforced concrete beam 230mm wide and 500mm effective depth is reinforced with 4-16mm diameter. Find the depth of neutral axis and moment of resistance of section. Materials used are M20 grade concrete and Fe415 steel.(Use working stress method)

PO1	CO1	10 marks

(Q2) A doubly reinforced concrete beam is 400mm wide and 600mm deep to the tensile reinforcement. The compression reinforcement consists of 4 bars of 16mm diameter and is placed with its centre at a depth of 40mm from the top. The tensile reinforcement consists of 4 bars of 20mm diameter. The section is subjected to a bending moment of 100kNm. Determine the stresses in concrete and steel. Take m=16

PO3	CO1	10 marks

(Q3) A rectangular beam is 20cm wide and 40cm deep up to the centre of reinforcement. Find reinforcement required if it has to resist a moment of 40kNm. Assume M20 mix and Fe 415 grade steel.

PO2	CO1	10 marks

Name of the paper-setter: K Gayatri Kiran	Department of the Paper-setter: **Civil Engineering**
Date:**24-09-2022**	Signature of the paper-setter: GK

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

III B.TECH II SEM (R20) I-MID EXAMINATIONS MAR-2023

ELECTRICAL MEASUREMENTS AND INSTRUMENTATION	
III B.TECH II SEM	Subject Code: R2032022
7th March 2023	2:00 PM - 3:30 PM
Max.Marks:30	**Mr. T Venkatesh**, Asst.Prof, Dept.of EEE
All questions carry equal marks**Answer all questions.	

Q1. Explain the construction and torque equation of PMMC Instrument ? 10M

Course Outcome -01	Program outcome-02
Know the construction and working of various types of analog instruments.	Identify, formulate, analyze, and implement Electrical and Electronics Engineering knowledge to meet desire needs.

Q2. a) Explain the derivation of Actual ratio of potential transformer? 6M

b) A potential transformer has a ratio 1000/100V and has following parameters:
primary resistance= 96 Ω, secondary resistance=0.88 Ω
primary reactance= 67.2 Ω total equivalent reactance=115 Ω.
No load current is 0.03A at 0.4 pf lagging.
Calculate i) phase angle error at no load.
ii) Burden in VA at unity pf at which the phase angle will be zero 4M

Course Outcome-01	Program outcome-04
Know the construction and working of various types of analog instruments.	Conduct investigations of Electrical Engineering problems through experimentation and analysis.

Q3. Explain the construction and torque equation of Electrodynamometer type instruments? 10M

Course Outcome-02	Program outcome-03
Describe the construction and working of wattmeter and power factor meters.	Design and develop electrical system components that meet users specifications

NAME OF STUDENT:	**HALL TICKET#:**

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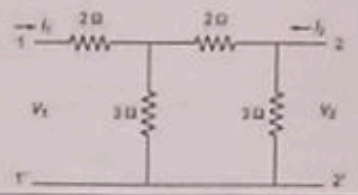
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

II B.TECH I SEM (R20) II-MID EXAMINATIONS JAN-2023

ELECTRICAL CIRCUIT ANALYSIS -II	
II B.TECH I SEM	Subject Code:**R2021023**
4th Jan 2023	2:00 PM - 3:30 PM
Max.Marks:30	**Mr. Y.Santhosh**, Asst.Prof, Dept.of EEE
All questions carry equal marks**Answer all questions.	

Q1. Find the Z –parameters and Y-parameters of the network shown in below. 10M



Course Outcome -04	Program outcome-02
Estimate various parameters of a two port network.	Identify, formulate, analyze, and implement Electrical and Electronics Engineering knowledge to meet desire needs.

Q2. a)Express Z-parameters in terms of h- parameters 5M

b) Obtain the relation between Transmission parameter and impedance parameters 5M

Course Outcome-04	Program outcome-04
Estimate various parameters of a two port network.	Identify, formulate, analyze, and implement Electrical and Electronics Engineering knowledge to meet desire needs.

Q3. a) Design a Low pass filter (both T and π section) having a cut off frequency of 6khz to operate a load resistance of 500Ω. 5M

b) Design a m-derived high pass filter (both T and π section) having a cut off frequency of 2khz and a load resistance of 500Ω and resonant frequency of 2400hz. 5M

Course Outcome-05	Program outcome-03
Understand the significance of filters in electrical networks.	Design and develop electrical system components that meet users specifications

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

II B.TECH I SEM (R20) II-MID EXAMINATIONS JAN-2023

DC MACHINES AND TRANSFORMERS	
II B.TECH I SEM	Subject Code: **R2021024**
5th January 2023	2:00 PM - 3:30 PM
Max.Marks:30	**Mr. P Karunakar**, Asst.Prof, Dept.of EEE
All questions carry equal marks** Answer all questions.	

Q1. A) Draw the phasor diagram of an ideal transformer on no-load. Also, draw a phasor diagram of a practical transformer supplying lagging power factor load. 10M

Course Outcome -04	Program outcome-02
Analyze the performance of single phase transformers	Identify, formulate, analyze, and implement Electrical and Electronics Engineering knowledge to meet desire needs.

Q2. Explain the working of single-phase auto transformer with neat diagrams? Derive an expression for saving of copper in it when compared to ordinary two winding transformer 10M

Course Outcome-04	Program outcome-04
Analyze the performance of single phase transformers.	Conduct investigations of Electrical Engineering problems through experimentation and analysis.

Q3. A 5KVA, 1000/200 V, 50 Hz single-phase transformer gave the following test results:
Open circuit test (LV side): 200 V, 1.2 A, 90 W
Short circuit test (HV side): 50 V, 5 A, 110 W.
Compute the parameters of approximate equivalent circuit referred to LV side 10M

Course Outcome-05	Program outcome-03
Predetermine regulation, losses and efficiency of single phase transformers.	Design and develop electrical system components that meet users specifications

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Gajula Rega, Vizianagaram - 535 002, ANDHRA PRADESH, INDIA
III-B. TECH II-SEM I-MID EXAMINATIONS – MAR-2023
Subject Code: R2032032 Subject Name: DESIGN OF MACHINE MEMBERS-II

MECHANICAL ENGINEERING
SET-1

Date: 07-03-2023 Duration : 90 min
ANSWER ALL QUESTIONS TOTAL MARKS : 30

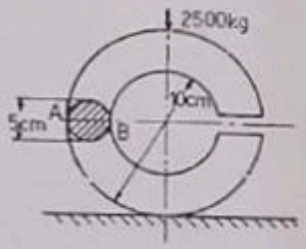
1. a) Explain about classification of bearings. 2Marks
b) A journal bearing is to be designed for a centrifugal pump for the following data: Load on the journal = 12 kN ; Diameter of the journal = 75 mm ; Speed = 1440 r.p.m; Atmospheric temperature of the oil = 16°C ; Operating temperature of the oil = 60°C; Absolute viscosity of oil at 60°C = 0.023 kg/m-s. Give a systematic design of the bearing 8Marks

Course outcome -1	Program outcome-2
Apply knowledge about the design of bearings.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

2. . (a) What are the requirements of a piston material? 2Marks
(b) Design a cast iron piston for a single acting four stroke engine for the following data:
Cylinder bore = 100 mm ; Stroke = 125 mm ; Maximum gas pressure = 5 N/mm2 ; Indicated mean effective pressure = 0.75 N/mm2 ; Mechanical efficiency = 80% ; Fuel consumption = 0.15 kg per brake power per hour ; Higher calorific value of fuel = 42 × 103 kJ/kg ; Speed = 2000 r.p.m. Any other data required for the design may be assumed. 8Marks

Course outcome -2	Program outcome-2
Explain the concepts in designing various engine parts.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

3. A ring is made of a 5 cm diameter round bar as shown in fig point A and B. calculate the maximum and minimum stresses. 10Marks



Course outcome -3	Program outcome-2
Utilize the knowledge to design curved beams and power screws.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

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III-B. TECH II-SEM I-MID EXAMINATIONS – MAR-2023
Subject Code: R2032032 Subject Name: DESIGN OF MACHINE MEMBERS-II

MECHANICAL ENGINEERING
SET-1

Date: 07-03-2023 Duration : 90 min
ANSWER ALL QUESTIONS TOTAL MARKS : 30

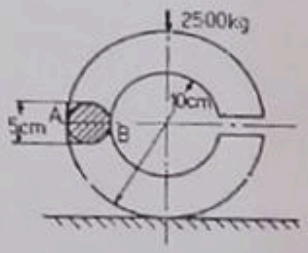
1. a) Explain about classification of bearings. 2Marks
b) A journal bearing is to be designed for a centrifugal pump for the following data: Load on the journal = 12 kN ; Diameter of the journal = 75 mm ; Speed = 1440 r.p.m; Atmospheric temperature of the oil = 16°C ; Operating temperature of the oil = 60°C; Absolute viscosity of oil at 60°C = 0.023 kg/m-s. Give a systematic design of the bearing 8Marks

Course outcome -1	Program outcome-2
Apply knowledge about the design of bearings.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

2. . (a) What are the requirements of a piston material? 2Marks
(b) Design a cast iron piston for a single acting four stroke engine for the following data:
Cylinder bore = 100 mm ; Stroke = 125 mm ; Maximum gas pressure = 5 N/mm2 ; Indicated mean effective pressure = 0.75 N/mm2 ; Mechanical efficiency = 80% ; Fuel consumption = 0.15 kg per brake power per hour ; Higher calorific value of fuel = 42 × 103 kJ/kg ; Speed = 2000 r.p.m. Any other data required for the design may be assumed. 8Marks

Course outcome -2	Program outcome-2
Explain the concepts in designing various engine parts.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

3. A ring is made of a 5 cm diameter round bar as shown in fig point A and B. calculate the maximum and minimum stresses. 10Marks



Course outcome -3	Program outcome-2
Utilize the knowledge to design curved beams and power screws.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

SATYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT VIZIANAGARAM

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Name of the paper-setter: **S.PRASANTH**	Department of the Paper-setter: **Mechanical**
Date:28-02-2023	Signature of the paper-setter:
Name of the student:	Register no:

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III-B. TECH II-SEM I-MID EXAMINATIONS - MAR-2023

Subject Code: R2032032 Subject Name: DESIGN OF MACHINE MEMBERS-II

MECHANICAL ENGINEERING
SET-2

Date: 07-03-2023 Duration: 90 min
TOTAL MARKS: 30

ANSWER ALL QUESTIONS

1 a) Advantages and Disadvantages of Rolling Contact Bearings Over Sliding Contact Bearings [m
b) Select a single row deep groove ball bearing for a radial load of 4000 N and an axial load of 5000 N, operating at a speed of 1600 r.p.m. for an average life of 5 years at 10 hours per day. Assume uniform and steady load. [7Marks]

Course outcome :	Program outcome :
Apply knowledge about the design of bearings	Identify, a Mechanical Engineering problem, analyze and interpret data from experiments to assist in design process

2 Determine the dimensions of an I section connecting rod for a petrol engine from the following data: Diameter of the piston = 110 mm; Mass of the reciprocating parts = 2 kg; Length of the connecting rod from centre to centre = 325 mm; Stroke length = 150 mm; R.P.M. = 500; with possible overspeed of 2500; Compression ratio = 4; Maximum explosion pressure = 4.5 N/mm². [10Marks]

Course outcome :	Program outcome :
Explain the concepts in designing various engine parts	Identify, a Mechanical Engineering problem, analyze and interpret data from experiments to assist in design process

3 A [illegible]

Course outcome -3	Program outcome-2
knowledge to design curved beams screws.	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process.

Name of the paper-setter: S.PRASANTH	Department of the Paper-setter: Mechanical
Date:28-02-2023	Signature of the paper-setter
Name of the student	Register no:

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III-B. TECH II-SEM II-MID EXAMINATIONS – MAY-2023

Subject Code: R2032032 Subject Name: DESIGN OF MACHINE MEMBERS-II

MECHANICAL ENGINEERING
SET-1

Date: 09-05-2023 Duration: 90 min
ANSWER ALL QUESTIONS TOTAL MARKS: 30

1. The lead screw of a lathe has ACME threads of 40 mm nominal diameter and 6 mm pitch. The screw must exert an axial thrust of 20 KN for driving the carriage. The thrust is carried on a collar with 45 mm inner diameter and 90 mm outer diameter. The lead screw rotates at 36 r.p.m. determine i) the power required to operate the screw, and ii) the efficiency of the lead screw. Take coefficient of friction for the screw thread as 0.15, and for the collar surface as 0.12 10Marks

Course outcome -3	Program outcome-2
Utilize the knowledge to design curved beams and power screws	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process

2.It is required to design a pair of spur gears with 200 full depth involute teeth consisting of a 20-teeth pinion meshing with a 50 teeth gear. The pinion shaft is connected to 22.5 KW, 1450 rpm electric motor. The starting torque of the motor can be taken as 150% of the rated torque. the material for pinion is plain carbon steel Fe 420 (Sut = 410 N/mm²), while the gear is made of grey cast iron FG 200 (Sut= 200 N/mm²). The factor safety is 1.5. Design the gears based on the lewis equation and using velocity factor to account for the dynamic load. 10 Marks

Course outcome -4	Program outcome-2
Justify power transmission systems and to design pulleys and gear drives	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process

3. Design a right-angled bell crank lever having one arm 500 mm and the other 150 mm long. The load of 5 kN is to be raised acting on a pin at the end of 500 mm arm and the effort is applied at the end of 150 mm arm. The lever consists of a steel forging, turning on a pivot at the fulcrum. The permissible stresses for the pin and lever are 84 MPa in tension and compression and 70 MPa in shear. The bearing pressure on the pin is not to exceed 10 N/mm². 10Marks

Course outcome -5	Program outcome-2
Apply the concepts in designing various machine tool elements	Identify a Mechanical Engineering problem, analyze, and interpret data from experiments to assist in design process

Name of the paper-setter: S. PRASANTH	Department of the Paper-setter: Mechanical

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IV-B. TECH II-SEM I-MID EXAMINATIONS – FEB-2023

Subject Code: R204203K Subject Name: **GREEN ENERGY SYSTEMS**

MECHANICAL ENGINEERING
SET-1

Date: 08-02-2023 **Duration : 90 min**
TOTAL MARKS : 30

ANSWER ALL QUESTIONS

1.a) Explain the different types of concentrating type collector. 5 marks
b) . Calculate the i) Zenith angle and ii) Solar azimuth angle for a place with latitude 43o at 9.30 AM solar time on Feb 13. 5 marks

Course outcome -1	Program outcome-7
Explain the importance of solar energy collection and storage.	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems.

2.a) . Explain the operation of horizontal axis wind mills. 5 marks
b) What is meant by anaerobic digestion? What are the factors that effect biodigestion? Explain briefly. 5 marks

Course outcome -2	Program outcome-7
Apply the principles of wind energy and biomass energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems.

3. a) What are the advantages and disadvantages of geothermal energy? 5 marks
b) Explain about dry, wet and Hot water geo thermal systems. 5 marks

Course outcome -3	Program outcome-7
Analyze knowledge on geothermal and ocean energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems.

Name of the paper-setter: **S.PRASANTH**	Department of the Paper-setter: **Mechanical**
Date 02-02-2023	Signature of the paper-setter:
Name of the student	Register no

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IV-B. TECH II-SEM I-MID EXAMINATIONS – FEB-2023

Subject Code: R204203K **Subject Name: GREEN ENERGY SYSTEMS**

MECHANICAL ENGINEERING
SET-2

Date: 08-02-2023 **Duration : 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

1.a) Explain the working of Solar Water heater with component-based diagram. 5 marks

b) . Determine the average value of solar radiation on a horizontal surface for June 22, at the latitude of 100 N, if constants a and b are given as equal to equal to 0.30 and 0.51 respectively, and the ratio n/N=0.55. 5 marks

Course outcome -1	Program outcome-7
Explain the importance of solar energy collection and storage.	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

2.a) . Using Betz model of a wing turbine, derive the expression for power extracted from wind. 5 marks.

b) List the various Biomass Resources and explain the constructional details and working of KVIC digester. 5 marks

Course outcome -2	Program outcome-7
Apply the principles of wind energy and biomass energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

3. a) What are the advantages and disadvantages of geothermal energy? 5 marks

b) Briefly explain the Geothermal Sources 5 marks

Course outcome -3	Program outcome-7
Analyze knowledge on geothermal and ocean energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

Name of the paper-setter S. PRASANTH	Department of the Paper-setter **Mechanical**
Date 02-02-2023	Signature of the paper-setter

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Gajula Rega, Vizianagaram - 535 002, ANDHRA PRADESH, INDIA
IV-B. TECH II-SEM II-MID EXAMINATIONS – FEB-2023

Subject Code: R204203K **Subject Name: GREEN ENERGY SYSTEMS**

MECHANICAL ENGINEERING
SET-1

Date: 10-04-2023 **Duration : 90 min**
ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

1.a) What are the site requirements to construct a Tidal Power Plant? 5 marks
b) Explain the basic components of Tidal Power Plants and give their significance. 5 marks

Course outcome -1	Program outcome-7
Analyze knowledge on geothermal and ocean energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

2. Describe the classification of fuel cell. With a neat sketch explain the working of fuel cell. 10 marks

Course outcome -2	Program outcome-7
Learn about energy efficient systems	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

3.a) What are the benefits of implementing green manufacturing systems? 5 marks
b What are some alternate casting and joining techniques that can be used in green manufacturing? 5marks

Course outcome -3	Program outcome-7
Discuss the concepts of green manufacturing systems	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

Name of the paper-setter: S.PRASANTH	Department of the Paper-setter: **Mechanical**
Date: 30-03-2023	Signature of the paper-setter
Name of the student:	Register no:

Dr.D.V.Rama Murthy
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IV-B. TECH II-SEM II-MID EXAMINATIONS – FEB-2023
Subject Code: R204203K Subject Name: GREEN ENERGY SYSTEMS

MECHANICAL ENGINEERING
SET-2

Date: 10-04-2023 Duration : 90 min
ANSWER ALL QUESTIONS TOTAL MARKS : 30

1. Explain with sketches the various methods of tidal power generation. What are the limitations of each method? 10 marks

Course outcome -1	Program outcome-7
Analyze knowledge on geothermal and ocean energy	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

2. Explain controls for HVAC (heating, ventilation and air conditioning) systems improve energy efficiency in buildings.10 marks

Course outcome -2	Program outcome-7
Learn about energy efficient systems	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

3. 3.a) What are some examples of efficient and sustainable green production systems? 5 marks
b what is zero waste manufacturing, and how can it be implemented in production processes? 5 marks

Course outcome -3	Program outcome-7
Discuss the concepts of green manufacturing systems	Propose, where possible, environment-friendly and sustainable solutions to Mechanical Engineering problems

Name of the paper-setter: S.PRASANTH	Department of the Paper-setter: **Mechanical**
Date: 30-03-2023	Signature of the paper-setter:
Name of the student	Register no

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Gajula Rega, Vizianagaram - 535 002, ANDHRA PRADESH, INDIA
II-B.TECH II-SEM I-MID EXAMINATIONS – March 2023

Subject Code:R2022032 **Subject Name: DYNAMICS OF MACHINERY**

MECHANICAL ENGINEERING

Date: 22-03-2023 **Duration : 90 min**
ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

(Q1) A. With a neat sketch explain the working of Multi plate clutch

B. The thrust of a propeller shaft in a marine engine is taken up by a number of collars integral with the shaft which is 300 mm in diameter. The thrust on the shaft is 200 kN and the speed is 75 r.p.m. Taking μ constant and equal to 0.05 and assuming intensity of pressure as uniform and equal to 0.3 N/mm^2, Find the external diameter of the collars and the number of collars required, if the power lost in friction is not to exceed 16 kW.

PO1	CO3	3+7 =10 marks

(Q2) A. Write notes on Turning moment diagram

B. The turning moment diagram for a petrol engine is drawn to the following scales: Turning moment 1mm=5N-m; crank angle 1mm=1°. The turning moment diagram repeats itself at every half revolution of the engine and the areas above and below the mean turning moment line taken in order are 295, 685, 40, 340, 960, 270 mm^2. The rotating parts are equivalent to a mass of 36 kg at a radius of gyration of 150mm. Determine the coefficient of fluctuation of speed when the engine runs at 1800r.p.m.

PO1	CO1	3+7 =10 marks

(Q3) A. What is the function of a governor? How does it differ from that of a flywheel ?

B. A porter governor has equal arms each 250mm long and pivoted on the axis of rotation. Each ball has a mass of 5 kg and the mass of central load on the sleeve is 25kg. The radius of rotation of the ball is 150mm. The governor begins to lift and raises to 200mm when the governor is at maximum speed. Find the range of speed when the friction at the sleeve is equivalent to 10N.

PO1	CO2	3+7 =10 marks

Name of the paper-setter: **Ch. Venkata Lakshmi**	Department of the Paper-setter: **Mechanical**
Date: **20-03-2023**	Signature of the paper-setter

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Gajula Rega, Vizianagaram - 535 002, ANDHRA PRADESH, INDIA

II-B.TECH II-SEM II-MID EXAMINATIONS – May 2023

Subject Code:R2022032 **Subject Name: DYNAMICS OF MACHINERY**

MECHANICAL ENGINEERING

Date: 17-05-2023 **Duration : 90 min**

ANSWER ALL QUESTIONS **TOTAL MARKS : 30**

(Q1) A. Define axis of spin and axis of precession

B. The moment of inertia of a rotating disc in aeroplane is 15kg-m2 and the direction of rotation is clockwise when looking from front side of the aeroplane. The speed of the disc is 1600rpm. The speed of flight is 240km/hr. If the aeroplane makes a right turn on a curved path of 170m radius, find the gyroscopic couple on the aeroplane and discuss the effects on it

PO1	CO3	2+8 =10 marks

(Q2) ABCD are four masses carried by a rotating shaft at radii 100mm, 125mm, 200mm and 150mm respectively by the planes in which the masses revolve are spaced 600mm apart and the mass of the BC and D are 10kg, 5kg and 4kg respectively. Find the required mass A and the relative angular settings of the 4 masses so that the shaft shall be in complete balance

PO1	CO3	10 marks

(Q3) A. Define Damped Vibration

B. A shaft of 50 mm diameter and 3 m long is simply supported at the ends and carries three masses 100 Kg, 120 Kg and 80 Kg at 1.0 m, 1.75 m and 2.5 m respectively from the left support. Taking E = 20 GPa. Find the frequency of transverse vibrations using Dunkerley's method

PO1	CO3	2+8 =10 marks

Name of the paper setter: Ch. Venkata Lakshmi	Department of the Paper setter: Mechanical
Date: 11-05-2023	Signature of the paper setter

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ELECTRONICS AND COMMUNICATION ENGINEERING

II-B.TECH -I-SEM- II-MID-EXAMINATIONS – JAN – 2023

SIGNALS AND SYSTEMS

CODE: R2021043 REG: R20 TIME: 02:00-03:30AM.

DATE: 05/01/23 DURATION:90 M

ANSWER ALL THE QUESTIONS TOTAL MARKS:15 M.

1. Obtain conditions for the distortion less transmission through a system. (5 MARKS)
2. Derive the relationship between autocorrelation and energy spectral density of an energy signal. (5 MARKS)
3. a) State and prove time shifting of z- transform.
   b) Find the Laplace Transform of the following: (i) $Cos(w_d)\ u(t)$ (5 MARKS)

Prepared by Mrs.V.N.Sireesha Asst. Prof. , ECE.

Dr.D.V.Rama Murthy
Professor & Head
Dept. of ECE
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ELECTRONICS AND COMMUNICATION ENGINEERING

III-B.TECH -I-SEM-MID-II EXAMINATIONS – NOV – 2022

Electromagnetic Waves and Transmission Lines

CODE: R2031042 **REG:R20** **TIME:02:00-03:30PM.**

DATE: 29-11-2022 **DURATION:90 M**

ANSWER ALL THE QUESTIONS **TOTAL MARKS:15 M.**

1. Determine the capacitance of co-axial cable per unit length using Maxwell's equations?

PO1	CO1	5 marks

2. Derive Maxwell's equations in integral & differential forms for time varying fields

PO1	CO2	5 marks

3. Define uniform plane wave, Prove that uniform plane wave doesn't have field components in the direction of propagation?

PO2	CO3	5 marks

Name &Designation of the paper-setter: **BVSL.Jyothi, Asst.prof**	Department of the Paper-setter: **ECE**
Date: **29-11-2022**	Signature of the paper-setter:

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ELECTRONICS AND COMMUNICATION ENGINEERING

IV-B.TECH -I-SEM- I-MID-EXAMINATIONS – SEP- 2022.

SUBJ.CODE:R1941043 SUBJ.NAME: DI&VP

DATE: 07.09.2022 TIME: 2:00PM-3:30PM DURATION: 90 Min

ANSWER ALL THE QUESTIONS TOTAL MARKS:30 M.

1) Explain fundamental steps of Digital image processing? (10 M)

2) Discuss about image smoothing in the frequency domain using ideal low pass filters? (10 M)

3) Write the applications of segmentation & explain threshold based segmentation? (10 M)

Prepared by D Vijaya Sri, Asst . Prof , ECE.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II B.TECH II SEM (R20) II-MID EXAMINATIONS MAY-2023

LINEAR CONTROL SYSTEMS	
II B.TECH II SEM	Subject Code: R20122044
DATE: 18-05-2023	TIME: 2:00 PM - 3:30 PM
Max.Marks:15M	Mr.G.T.NAIDU, Asst.Prof, Dept.of EEE
All questions carry equal marks** Answer all questions.	

Q1. Define the following terms i) absolute stability ii) marginal stability iii) conditional stability iv) relative stability v) instability 5M

Course Outcome –CO3	Program outcome-PO1
Control systems for various applications can be designed using time-domain and frequency domain analysis.	Apply the knowledge of mathematics, science, engineering fundamentals in the context of Electronics and Communication Engineering.

Q2. Construct the polar plot of $G(S)H(S) = K/S(S+3)(S+5)$ and there from determine range of K for stability using Nyquist Criterion? 5M

Course Outcome-CO3	Program outcome-PO3
Control systems for various applications can be designed using time-domain and frequency domain analysis.	Design solutions for Electronics and Communication Engineering problems by considering various and relevant factors.

Q3. The transfer function of a control system is given by $\frac{Y(S)}{U(S)} = \frac{S+2}{S^3+9S^2+24S+24}$ check for controllability and observability. 5M

Course Outcome-CO4	Program outcome-PO3
In addition to the conventional approach, the state space approach for the analysis of control systems is also introduced	Design solutions for Electronics and Communication Engineering problems by considering various and relevant factors.

NAME OF STUDENT:	HALL TICKET#:

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III B.TECH II SEM (R20) I-MID EXAMINATIONS MAR-2023

DIGITAL SIGNAL PROCESSING	
III B.TECH II SEM	Subject Code: R2032043
DATE:09/03/23	TIME: 2:00 PM - 3:30 PM
Max.Marks:15M	**Mrs.V.N.Sireesha**, Asst.Prof, Dept.of ECE
Answer all questions	

Q1. a) Determine the stability for the following systems: i) $h(n) = 2^n u(n)$. 2M
b) State the properties of ROC of Z-Transforms.3M

Course Outcome -1	Program outcome-1
Apply the difference equations concept in the analysis of DT Systems.	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Q2. Compute the DFT of a sequence $x(n) = \{0.5, 0.5, 0.5, 0.5, 1, 1, 1, 1\}$ using DIF-FFT Algorithm.5M

Course Outcome-2	Program outcome-1
Use the FFT Algorithm for solving the DFT of a given signal.	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Q3. Design an analog Butterworth filter that has $\alpha_p = 3dB, \alpha_s = 18dB$, dB; $f_p = 1KHz, f_s = 2KHz$. 5M

Course Outcome-2	Program outcome-2
Design a Digital Filter from the given specifications	Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

NAME OF STUDENT:	HALL TICKET#:

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ELECTRONICS AND COMMUNICATION ENGINEERING

IVB.Tech-II Sem-II Mid Examinations- APRIL 2023.

WIRELESS COMMUNICATION

Academic Year: 2022-23 **Batch:** 2019-23

Subject Code: R194204A **Time:**02:00P.M-03:30P.M

Date: 03-04-2023 (MONDAY) **Duration:**90 Minutes

Answer All the Questions **Maximum Marks:30**

1) Explain singular value decomposition (SVD)of MIMO Channel ?[10M]
2) Explain the concept of MIMO-OFDM(orthogonal frequency division Multiplexing) and calculate the Bit Error Rate(BER) for OFDM? [10M]
3) A) Explain the concept of satellite orbit? [5 M]
   B) Briefly explain how satellites are used for communication [5 M]

Prepared by SRINIVASARAO.D, Asst. Professor.,ECE.

Dr.D.V.Rama Murthy
Principal

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AI&DS)

II B.TECH I SEM (R20) II -MID EXAMINATIONS JAN 2023

INTRODUCTION TO AI&DS	
II B.TECH I SEM	Subject Code: R2021451
Date: 04/01/23	2:00 PM - 3:30 PM
Max.Marks:30	**Mr.Y Dinesh Kumar**, Asst.Professor , Dept.of CSE
All questions carry equal marks *Answer all questions*	

Q1 (a) Explain about Knowledge-Based Agents? [5M]

(b) Explain about Mental Events and Mental Objects? [5M]

Course Outcome -04	Program outcome-02
Apply the basic principles of AI in problem solving	**Design and Development of Solutions** Design solution for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental consideration

Q2 (a) What is Data science? A data scientist role in the data science process? [5M]

(b) what is NumPy? Explain about Creating ndarrays ? [5M]

Course Outcome-05	Program outcome-04
Implement different algorithms	**Engineering Knowledge** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems

Q3 (a) Explain about Pandas Library Architecture? [5M]

(b) Read the following file formats using pandas?

I)CSV files

II)Excel files

III) JSON files [5M]

Course Outcome-06	Program outcome-03
Perform various operations using numpy and pandas	**Conduct investigations of complex problems** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING(AI&DS)

II B.TECH I SEM (R20) II -MID EXAMINATIONS JAN 2023

INTRODUCTION TO AI&DS	
II B.TECH I SEM	Subject Code: **R2021451**
Date: 04/01/23	2:00 PM - 3:30 PM
Max.Marks:30	**Mr.Y Dinesh Kumar**, Asst.Professor , Dept.of CSE
All questions carry equal marks *Answer all questions*	

Q1 (a) Explain about Knowledge-Based Agents? [5M]
(b) Explain about Mental Events and Mental Objects? [5M]

Course Outcome -04	Program outcome-02
Apply the basic principles of AI in problem solving	**Design and Development of Solutions** Design solution for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental consideration

Q2 (a) What is Data science? A data scientist role in the data science process? [5M]
(b) what is NumPy? Explain about Creating ndarrays ? [5M]

Course Outcome-05	Program outcome-04
Implement different algorithms	**Engineering Knowledge** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems

Q3 (a) Explain about Pandas Library Architecture? [5M]
(b) Read the following file formats using pandas?
I)CSV files
II)Excel files
III)JSON files [5M]

Course Outcome-06	Program outcome-03
Perform various operations using numpy and pandas	**Conduct investigations of complex problems** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

II B.TECH II SEM (R20) II-MID EXAMINATIONS MAY-2023

FORMAL LANGUAGES AND AUTOMATA THEORY	
II B.TECH II SEM	Subject Code:**R2022053**
17 May 2023	2:00 PM -3:30PM
Max.Marks:30	**Ms E Sravya**, Asst.Prof, Dept.of CSE
All questions carry equal marks**Answer all questions.	

1.a) Define Context Free Grammar. 5M
Derive the left most and the rightmost derivations for the string aabbaa.

$G = (\{S, A\}, \{a, b\}, S, P)$, where P is,

$$S \rightarrow aAS|a$$
$$A \rightarrow SbA|SS|ba.$$

b) Illustrate ambiguous grammar and check the grammar is ambiguous or not 5M
E->E+E|E*E|(E)|id

Course Outcome -03	Program outcome-04
Employ finite state machines to solve problems in computing	To learn how to design Automata's and machines as Acceptors, Verifiers and Translators

2.a) Develop a PDA to accept the language WCW^R where W belongs to (0+1)*

and W^R is the reverse of the string 5M

b) Discuss the notation and applications of two stack push down automata 5M

Course Outcome-04	Program outcome-05
Illustrate deterministic and non-deterministic machines	To understand the relation between Contexts free Languages, PDA and TM

3.a) List and explain the types of Turing machines 5M

b) Explain the concepts NP-Hard and NP-complete with examples 5M

Course Outcome-05	Program outcome-06
Quote the hierarchy of problems arising in the computer science	To learn how to design PDA as acceptor and TM as Calculators

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

III B.TECH II SEM (R20) I-MID EXAMINATIONS MARCH-2023

Machine Learning	
III B.TECH II SEM	Subject Code:R2032051
06/03/23	2:00 PM - 3:30 PM
Max.Marks:30M	PRIYANKA B

All questions carry equal marks**Answer all questions.

1. (a) Define machine learning? main challenges of ML? [5M]

   (b) Difference between supervised and unsupervised learning with examples? [5M]

Course Outcome -01	Program outcome-01
Fundamental concept of machine learning system.	Apply the knowledge of mathematics, science, engineering fundamentals of computer science and engineering.

2. (a) Describe decision tree algorithm with example and neat diagram? [5M]

   (b) Describe logistic regression? [5M]

Course Outcome-02	Program outcome-03
Demonstrate on various regression technique.	Design solutions for computer science and engineering problems and process?

3. (a) Explain about SVM with nonlinear concept algorithm? [5M]

   (b) Describe about ensemble learning with different types of it ? [5M]

Course Outcome-03	Program outcome-03
Analyze the ensemble learning methods.	Design solutions for computer science and engineering problems and process?

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

III B.TECH II SEM (R20) MID I EXAMINATIONS MARCH 2023

BIG DATA ANALYTICS	
IIIB.TECH II SEM	Subject Code: **R2032121**
Date: 10/03/23	2:00 PM - 3:30 PM
Max.Marks:30	**Mr. Y. Dinesh Kumar**, Asst. Professor ,Dept. of CSE
All questions carry equal marks *Answer all questions*	

Q1. (a) Explain about Big Data Platform with characteristics? [5M]

(b) Explain about Challenges of Conventional Systems? [5M]

Course Outcome -01	Program outcome-01
Illustrate big data challenges in different domains including social media, transportation, finance and medicine	Engineering knowledge

Q2. (a) Describe about Intelligent data analysis, Nature of Data with examples? [5M]

(b) Differentiate between Analysis and reporting? [5M]

Course Outcome-02	Program outcome-2
Use various techniques for mining data stream	Problem analysis

Q3. (a) what is Stream Processing? Explain about different data streams? [5M]

(b) Explain about Stream Data architecture? [5M]

Course Outcome-03	Program outcome-03
Use various techniques for mining data stream	Design/development of solutions

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DEPARTMENT OF MANAGEMENT STUDIES I YEAR I SEMESTER-MID I

LEGAL AND BUSINESS ENVIRONMENT

Code: MB1915
Date :17-02-2023

Duration: 2hrs
Marks: 15 M

Answer all Questions

1)Explain about NITI AAYOG? (5M)

2)Explain the types of economic policies? (5M)

3)Explain about Indian contract act of 1872? (5M)

Prepared by Mr.N.Prudhvi
Assistant Professor, Dept MBA

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DEPARTMENT OF MANAGEMENT STUDIES I YEAR I SEMESTER-MID II

LEGAL AND BUSINESS ENVIRONMENT

Code: MB1915
Date :17-02-2023

Duration: 2hrs
Marks: 15 M

Answer all Questions

1)Explain the characteristics and environmental factors of business environment ? (5M)

2)Explain the types of economic system? (5M)

3)Explain the types of economic policies?(5M)

Prepared by Mr.N.Prudhvi
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DEPARTMENT OF MANAGEMENT STUDIES II YEAR II SEMESTER-MID I

EMPLOYEE RELATIONS AND ENGAGEMENT

Code:MB194A3
Date: 05/05/23

Duration: 2hrs
Marks: 15 M

Answer all Questions

(Q1) Elaborate the influencing Factors of Industrial relations in enterprise?[5 M]

(Q2) Explain Trade union and it's Functions?[5M]

(Q3) Briefly explain the causes of employee grievances?[5M]

Prepared by Ms.M.Prasanna
Assistant Professor,Dept MBA

Dr.D.V.Rama Murthy
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SITAM

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DEPARTMENT OF MANAGEMENT STUDIES II YEAR II SEMESTER-MID II

EMPLOYEE RELATIONS & ENGAGEMENT

Code: MB194A3
Date:

Duration: 2hrs
Marks: 15 M

Answer all Questions

1Q) Briefly explain different types of grievances [5M]

2Q) Explain nature and scope of industrial disputs? [5M]

3Q) Briefly explain the role of managers in engaging the employees? [5M]

Prepared by Ms.M.Prasanna
Assistant Professor, DMS

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DEPARTMENT OF MANAGEMENT STUDIES II YEAR II SEMESTER-MID I

STRATEGIC FINANCIAL MANAGEMENT

1) Explain about Financial goal and Strategy? [5M]
2) What are the factors affecting capital structure planning in decision making? [5M]
3) Explain steps of investment appraisal process? [5M]

Prepared by,

A Lakshmi priyanka,

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DEPARTMENT OF MANAGEMENT STUDIES M.B.A-II YEAR IV SEMESTERMID-II
STRATEGIC FINANCIAL MANAGEMENT

DATE: Duration: 2hrs

CODE: M8194-B4- Marks:15 M

Answer all Questions

(Q1)Explain decision tree approach for investment decision? [5M]

(Q2)Define merger, Explain different theories of mergers?[5M]

(Q3)Elaborate take over strategy? [5M]

Prepared by,

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APPLIED CHEMISTRY R201215

Probable viva-voce questions

1. What is an alkalinity? Ans: It is an ability of water to neutralize with the acids

2. What causes water to become alkaline?
Ans: Alkalinity of water is due to presence of OH^-, HCO_3^-, CO_3^{2-},($OH^- + CO_3^{2-}$) and ($HCO_3^- + CO_3^{2-}$)

3. What are the indicators used to determine the alkalinity of water? Ans: Phenolphthalein and methyl orange

4. Why two indicators are used in determining alkalinity of water?
Ans: It is because of different pH of water due to different ions causing alkalinity. The two indicators give end point at different PH i.e. phenolphthalein at pH at 8.3 and methyl orange 3.1 to 4.4.

5. How much alkalinity is permissible for drinking water? Ans: It should be less than 100 ppm.

6. On which factors, the use of acid indicator in a titration depends? Ans: It depends upon the pH of the solution.

7. If phenolphthalein end point is zero, then what it indicates? Ans: It indicates the absence of both OH^- and carbonate alkalinity.

8. If phenolphthalein end point is equal to methyl orange end point, then what it indicates?

9. If phenolphthalein end point is equal to half of methyl orange end point, then what it indicates?

10. If phenolphthalein end point is more than half of methyl orange end point, then what it indicates?

11. If phenolphthalein end point is less than half of methyl orange end point, then what it indicates?

12. Alkalinity of water is expressed in terms of which equivalents and why?

13. What are the ions determined by phenolphthalein? Hydroxide ion and half of carbonate ion

14. What is the role of methyl orange indicator in determining alkalinity? Ans: Total alkalinity is determined by using methyl orange.

15. What is your observation when P=0, P= ½ M, P< ½ M, P> ½ M, P=M?

1. Write the structure of potassium permanganate?

2. What is meant by oxidation?

Ans: Loss of electrons or loss of hydrogen or gain of oxygen from species.

3. What is an oxidising agent?
Ans: A substance which oxidises the other substance and undergoes self reduction itself is called oxidising agent. **Eg:** $KMnO_4$, $K_2Cr_2O_7$

4. What is meant by reduction?
Ans: Gain of electrons or gain of hydrogen or loss of oxygen rom species is called reduction.

5. What is an reducing agent?
Ans: A substance which reeduce the other substance and undergoes self oxidation itself is called reducing agent. **Eg:** Metals, metal oxides, H_2S, $LiAlH_4$, $NaBH_4$

5. What is redox reaction?
Ans: A reaction involving both oxidation and reduction is called redox reaction

6. Why no indicator is required in permanganate titration? Ans: Because MnO_4^- act as self-indicator

7. What type of titrations are permagnate titrations? Ans: Permanganate titrations are redox type titrations

8. Why do you heat the reaction mixture during the course of titration?
Ans: As the reaction between $KMnO_4$ and oxalic acid is slow, to ensure the completion of the reaction, the contents are heated.

9. What happens when heated to high temperatures? Ans: At high temperatures, oxalic acid decomposes to CO_2

10. What is an oxidizing agent in this experiment? Ans: Potassium permanganate

11. What is a reducing agent in this experiment? Ans: Oxalic acid.

12. Why do you add H_2SO_4 to the reaction mixture? Ans: Reaction takes place in acidic medium only

13. Why do you add H_2SO_4, why not other acids like HCl, HNO_3?

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Ans: HNO_3 is not used as it is itself an oxidizing agent and HCl is usually avoided because it reacts with $KMnO_4$ to produce Cl_2 which is also an oxidizing agent in aqueous medium.

14. What is the ambient temperature for this experiment? Ans: Approximately 50-60°c

15. What is the change in oxidation state of manganese? Ans: Mn^{+7} to Mn^{+2}

16. What is the change in oxidation state of carbon? Ans: +3 to +4

17. What is the equivalent weight of $KMnO_4$? Ans: Eq.Wt = 49.6

18. Write down the chemical reaction which taking place during the titration.

19. Why is $KMnO_4$ solution not filtered through filter paper?

20. Why $KMnO_4$ solution is kept in dark or coloured bottle. Ans: Because in presence of sunlight, KMnO4 disintegrates.

1. Write the structure of potassium dichromate?

2. What is meant by oxidation?

3. What is an oxidising agent?

4. What is meant by reduction?

5. What is an reducing agent?

5. What is redox reaction?

6. What is an oxidizing agent in this experiment? Ans: K2Cr2O7

7. What is a reducing agent in this experiment? Ans: ferrous iron

8. What is the indicator used in this experiment? Ans: Diphenylamine.

9. Why acid mixture is added before the starting of titration process? Ans:

10. What is the equivalent weight of potassium dichromate? Ans:

11. What is the oxidation number of Cr in potassium dichromate? Ans: +6

12. What is the color change at end point? Ans: pale yellow to blue

1. What is hypo? Ans: Sodium thiosulphate is called as hypo [$Na_2S_2O_3.5H_2O$]

2. Why should the reaction mixture be kept in dark?

Ans: In order to prevent the unwanted side reaction i.e light accelerate the oxidation of iodide ions to iodine by atmospheric oxygen.

3. Why starch indicator is added at the end of titration?

Ans: Because the concentration of iodine is very high in the beginning, is strongly absorbed by colloidal starch particles and not released even at the end point and make the detection of end point difficult.

4. Which indicator is used in iodometric titrations?

Ans: Freshly prepared 1% starch solution is used as indicator.

5. What type of titration it is? Ans: Iodometric titration

6. What is an absorption indicator? Give one example.

7. Write down the chemical reaction which taking place during the titration.

8. Why hypo is commonly used as a reducing agent in iodine titrations?

Ans: Hypo is preferred to other reducing agents in iodometry because it is a primary standard.

9. Which indicator is used in iodine titrations and what is color change at the end point?

Ans: Freshly prepared starch solution is used as an indicator. Starch gives blue color with iodine. Just disappearance of blue color is the end point of these titrations.

10. What are Iodine titrations?

Ans: The redox titrations using iodine directly or indirectly as an oxidizing agent are called iodine titration.

11. Why KI is added in excess to reaction mixture?

Ans: Because iodine is slowly released during the reaction due to reversible reaction.

$KI + I_2 \leftrightarrow K[I_3]$ $I^- + I_2 \leftrightarrow [I_3]^-$

12. Why you kept the reaction mixture is in dark for few miniutes?

Ans: Because the light accelerates the oxidation of iodine ions to iodine by atmospheric oxygen.

13. What is the equivalent weight of copper? Ans: 63.5

1. What is hardness of water?

Ans: Hardness is defined as the characteristics which prevents the lathering of soap.

2. How hardness is expressed?

Ans: Hardness is expressed in terms of $CaCO_3$ equivalent.

3. Why hardness is expressed in terms of $CaCO_3$ equivalent?

Ans: It is due to two reasons: (i) Mol. wt. of $CaCo_3$ being100 make calculation easier. (ii) It is the most insoluble compound precipitated out in water treatment.

4. How water becomes hard?

Ans: Water becomes hard due to its action on rock and minerals. This may involve hydrolysis, dissolution, disintegration, oxidation etc. of minerals by water.

5. What are various units of hardness?

Ans: Hardness of water can be expressed in following units:
(I) Parts per million (ppm) (II) Milligram per litre (mg/lt) (III) Degree Clarke(°C)
(IV) Degree French(°F)

6. Name some methods for removing permanent hardness of water.

Ans: There is (i) lime–soda (L-S) method (ii) zeolite method (iii) ion –exchange resin method

7. Which of the above methods is best for removing permament hardness? Ans: Ion –exchange resin method is best as it gives water for almost zero hardness.

8. Give few disadvantages of using hard water. Ans: Some of the advantages of using hard water is:
(i) It takes more time and consumes more soap for washing clothes.
(ii) Use of hard water results into scale and sludge formation inside boilers
(iii) It takes more time for cooking with hard water.

9. Why does hard water not lather with soap.

Ans: Ca^{+2} and mg^{+2}ions of hard water from insoluble soaps on treating hard water with soap 2RCOONa (soap) + M^{+2} (from hard water)→$(RCOO)_2$ M +2Na +(metallic soap ,white ppt or scum) Lather is only formed when all hardness causing metal ions are removed from water. So more soap is consumed.

10. What is a chelating agent?

Ans: It is a poly dentate ligand which coordinates with metal ions to form a stable ring complex The complex so formed is called a chelate . eg. EDTA is a chelating hexadentate ligand.

11. What is temporary hardness? how it can be removed?

Ans: Hardness of water due to presence of carbonates and bicarbonates of Calcium and magnesium is called temporary hardness. It can be removed by simple boiling of water.

12. What is permanent hardness?

Ans: Hardness of water due to presence of chlorides, sulphates and nitrates of calcium and magnesium is called permanent hardness.

13. What is the other name for temporary and permanent hardness?

Carbonate and non – carbonate hardness.

14. What is the role of buffer solution? Ans: To maintain pH 9 – 10.

15. What is the name of the buffer used in EDTA titration? Ans: Ammonium chloride - Ammonium hydroxide.

16. Why hardness is expressed in equivalents of calcium carbonate?

Ans: Calcium carbonate is most insoluble salt and its molecular weight and equivalent weights are 100 and 50 respectively.

17. What is hard water and soft water?

Ans: Water which readily forms lather with soap is called soft water and which does not produce lather is known as hard water. 30

23. What are the constituents of the ammonia buffer?

Ans: A mixture of ammonium chloride and ammonium hydroxide

24. What type of titrations are EDTA titrations? Ans: Complexometric titrations

25. What does it mean ppm? Ans: Parts per million. 1ppm = 1 mg/lit

26. What are the types of hardness?

Ans: Hardness is of two types 1. Temporary hardness - it is due to bicarbonates of Ca &Mg. Temporary hardness can be easily removed by boiling the water sample
2. Permanent hardness-it is due to chlorides, sulphates and nitrate of Ca and Mg. Total hardness = permanent hardness+ temporary hardness

27. Write down the chemical reaction which taking place during the titration.

28. What is carbonate hardness? Ans: temporary hardness

29. What is non carbonate hardness? Ans: permanent hardness

30. What are the major problems of hardness in water?

31. Name the methods to estimate the hardness of water. Ans: EDTA method, soap titration method

32. What is the color of EBT indicator? Ans: Blue

33. What is the color of Ca/Mg-EDTA complex? Ans: colorless

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DEPARTMENT OF BASIC SCINCES AND HUMANTIES

APPLIED PHYSICS

SUBJECT CODE R201107

VIVA VOCE QUESTIONS

REGULATION R20

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Diffraction Grating

VIVA QUESTIONS

1. What is diffraction grating?

Ans: A plate of glass or metal ruled with very close parallel lines, producing a spectrum by diffraction and interference of light.

2. What are the essential parts of the spectrometer?

Ans: The essential parts of the spectrometer are Eye-piece, telescope, objective lens, prism table, collimator, slit.

3. How many types of spectra are available?

Ans: The familiar spectrum colors are easy to remember with the mnemonic" VIBGYOR" for Red, Orange, Yellow, Green, Blue, Indigo, and Violet. Different light sources have different amounts of these colors.

4. What is the dispersive power of a grating?

Ans: Dispersive power is defined as the rate of change of angle of diffraction with the change of wavelength in a particular order of spectrum.

5. Define grating element?

Ans: The distance between two adjacent slits is known as granting element/ Its value is obtained by dividing the length of grating by the by total number of lines ruled on the grating.

$$d = L/N$$

L is the length of the grating

N=number of lines ruled on the grating

6. what is plane transmission diffraction grating?

Ans: A plane transmission diffraction grating is an optically plane parallel glass plate on which equidistant, extremely close grooves are made by ruling with a diamond point

7. In our experiment. What class of diffraction does occur and how?

Fraunhofer class of diffraction occurs. Since the spectrometer is focused for parallel rays the source and the image are effectively at infinite distances from the grating.

TORSIONAL PENDULUM - RIGIDITY MODULUS

(2)

VIVA QUESTIONS

1. Define the different types of moduli of elasticity?

Ans: There are three moduli in use.

(i) Young's modulus: The ratio of longitudinal stress to longitudinal strain, within the elastic limits is called young's modulus of the material. Its unit is N/m².

(ii) Bulk modulus: When a uniform pressure is applied over the whole surface of a body, it produces a uniform compression. The compression is proportional to the pressure, and the ratio of pressure to the volume strain is called bulk modulus. It is measured in N/m².

(iii) Rigidity Modules: The Rigidity Modules describes an object's pendency to shear (defarmation of shape at constant volume) when acted upon by oppsing forces.

2. Define Stress and strain and state their units?

Ans: The magnitude of the attractive or repulsive forces between molecules of a body per unit area is called stress. It is measured in N/m².

The change of shape or the fractional change of size of a body by a given set of forces of couples os called strain. Strain has no unit.

3. List the different stages of elastic properties of matter?

Ans: When a load continuously increased in the case of wire, it reaches different elastic stages like:

(i) Elatic limit

(ii) Permanent set

(iii) Breaking stress

(iv) Yield point

4. State Hooke's law and define Modulus of Elasticity?

Ans: The stress is proportional to the strain within the elastic limits is called Hooke's law. The ratio of any stress to the strain is called modulus of elasticity. It is measured in N/m².

5. What is poisson's ratio? What is its unit?

Ans: Within elastic limits there is a complete proportionality between the lateral strain and the longitudinal strain is called poisson's ratio. It has no unit.

6. What is a cantilever?

Ans: When one end of a horizontal beam is fixed and the other end is free, it is called a cantilver.

7. How is bending of a beam related to Young's modulus?

Ans: When a beam is bent by an applied couple, its longitudinal filaments are lengthened on the convex side and shortened on the concave, and thus the resistance which the beam offers

COMPOUND PENDULUM

VIVA QUESTIONS

1. What is acceleration due to gravity?

Ans: The acceleration due to gravity is the acceleration of a body due to the influence of the pull of gravity alone, usually denoted by 'g'.

2. What is simple harmonic motion?

Ans: Simple harmonic motion is a type of periodic motion where the restoring force is directly proportional to the displacement.

3. What is compound pendulum?

Ans: Pendulum consisting of an actual object allowed rotating freely around a horizontal axis.

4. What is the g value at the pole and at the equator?

Ans: At the equator and at sea level its value of g is about 9.78 m/s^2 and at the poles it is 9.83 m/s^2.

5. What is the equivalent length of a compound pendulum?

Ans: For these pendulums the appropriate equivalent length is the distance from the pivot point to a point in the pendulum called the center of oscillation

6. What is meant by center of gravity?

Ans: It's the geometric center of the sphere. For other shapes or for objects where the density is not the same throughout, it's more complicated.

7. What are units and dimensions of g?

Ans: The units of g are m/s^2 and the dimensions is length/$time^2$

MELDE'S EXPERIMENT – TRANVERSE AND LONGITUD.

VIVA QUESTIONS

(3) MO'

1. What do you mean by transverse and longitudinal waves?

Ans: For transverse waves the displacement of the medium is perpendicular to the direction of propagation of the wave. In longitudinal waves the displacement of the medium is parallel to the propagation of the wave.

2. Define standing wave?

Ans: A standing wave – also known as a stationary wave – is a wave that remains in a constant position.

3. What do you mean by node and anti node?

Ans: A node is a point along a standing wave where the wave has minimum amplitude. A anti node is a point where the amplitude of the standing wave is a maximum.

4. What is the importance of Melde's experiment?

Ans: To determine the frequency of tuning fork by using this experiment

5. What do u mean by Frequency?

Ans: Number of vibrations per second.

6. Define Resonance?

Ans: Vibrating a body with its natural frequency under the influence of another vibrating body is called resonance.

7. What u meant by Progressive wave?

Ans: A disturbance created in an elastic medium propagates outwards in an elastic medium in the form of a wave, is called progressive wave.

8. How many types of progressive waves are there?

Ans: Progressive waves are of two types and they are (1) transverse waves and (2) longitudinal waves.

a. The type of wave is based on how the particles of the elastic medium vibrate with respect to the direction of propagations of the wave.

b. A progressive wave always travels in the forward direction only and gets never returned back.

9. Difference between transverse wave and longitudinal wave?

Ans: In a transverse wave the particle vibrate perpendicularly where as in longitudinal wave the particle vibrate parallelly with respect to the direction of propagation of a wave.

10. What u meant by standing wave?

Ans: Standing waves means superposition of propagating waves that have same amplitudes and frequencies but traveling in opposite directions.

The term standing or stationary refers to the fact that the nodes and antinodes of the wave remain fixed in position.

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VERIFICATION THE LAWS OF STRETCHED STRING - SONOMETER

VIVA QUESTIONS

1. What is the principle involved in Sonometer experiment?

Ans: A sonometer is a device based on the principle of Resonance

2. Which type of waves is produced in Sonometer experiment?

Ans: Stationary transverse waves

3. What are transverse waves?

Ans: A transverse wave is a moving wave that consists of oscillations occurring perpendicular (or right angled) to the direction of energy transfer or wave propagation.

4. Which type of transformer is used in sonometer experiment and what is it?

Ans: Step down transformer. It is a device, which converts high voltage currents to low voltage currents

5. What is resonance?

Ans: In physics, resonance is the tendency of a system to oscillate with greater amplitude at some frequencies than at others. Frequencies at which the response amplitude is a relative maximum are known as the system's resonant frequencies, or resonance frequencies.

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DETERMINATION OF VELOCITY OF SOUND- VOLUME RESONA

VIVA QUESTIONS

(4)

1. Define the wave. What are the factors which affects the wave?

Ans: A wave is a disturbance that moves along a medium from one end to the other. The factor affecting the wave is wavelength, frequency, velocity and mass density of the wave.

2. Define transverse and longitudinal waves?

   A. For transverse waves the displacement of the medium is perpendicular to the direction of propagation of the wave.

   B. In longitudinal waves the displacement of the medium is parallel to the propagation of the wave

3. What is node and anti node?

Ans: A node is a point along a standing wave where the wave has minimum amplitude. For instance, in a vibrating guitar string, the ends of the string are nodes. The opposite of a node is an anti-node, a point where the amplitude of the standing wave is a maximum. These occur midway between the nodes.

4. Define and explain about resonance?

Ans: Resonance or sympathetic vibration may occur when an object is exposed to forced vibrations. If the frequency of these "forced" vibrations matches the object's "natural frequency" the object may begin to vibrate or, if it is already vibrating, a dramatic increase in the amplitude of these vibrations may occur. When either of these happens it is called resonance or sympathetic vibration.

5. Explain the difference between the forced vibration and natural vibration.

   A. When a periodic disturbing force keeps the body in vibration throughout its entire period of motion, such vibration is said to be a forced vibration. The frequency of vibration of the body is same as the frequency of the applied force

   B. In free vibration the body at first is given an initial displacement and the force is withdrawn. The body starts vibrating and continues the motion of its own accord. No external force acts on the body further to keep it in motion. The frequency of free vibration is known as free or natural frequency.

6. Give an example of mechanical wave?

Ans: Water waves and sound waves are mechanical waves

7. Is sound wave mechanical wave or electromagnetic wave?

Ans: Sound waves are called mechanical waves because they need a medium to travel through. Electromagnetic waves can travel through space (without medium), whereas sound waves

MAGNETIC FIELD ALONG THE AXIS OF A COIL (STEWART & GEE'S M

VIVA QUESTIONS

1. Define magnetic meridian?

Ans: A vertical plane passing through the magnetic axis of the earth is called magnetic meridian.

2. State Amper's circuital law.

Ans: The line integral of the magnetic field taken round a closed path is equal to μ_0 times the total electric current in the coil or closed path.

3. What is the S.I unit of permeability?

Ans: Weber ampere^{-1} meter^{-1}

4. What are magnetic elements?

Ans: Dip, declination and horizontal intensity are the magnetic elements.

5. What are Tan A and Tan B positions?

Ans: If the arms of the deflection magnetometer are in east-west direction, the magneto meter is said to be placed in end-on or Tan A position.
If the arms of the deflection magnetometer are in North- South direction, the magnetometer is said to be placed in broad side- on position or Tan B position.

6. What are the S.I and CGS units of magnetic induction?

Ans: S I unit: Tesla (T) CGS units : Gauss (G)
one tesla = 10^4 gauss

ENERGY GAP OF A SEMICONDUCTOR

(6)

P-N JUNCTION

VIVA QUESTIONS

1. What is diode?

Ans: The diode consists of two electrodes one is cathode and another is node. The cathode emits electrons and the anode will attracts the emitted electrons when it is supplied by positive potential.

2. What is energy band gap?

Ans: The gap between the bottom of conduction band and the top of valence band is called Energy gap. To move the electrons from the valence band to conduction band the supplied external voltage must be equal to energy band gap.

3. What is valence band?

Ans: The range of energy which is possessed by valence electrons is known as valence band. Here the electrons which are situated at outer most orbits are called valence electrons. The valence band consists of valence electrons which are having highest energy.

4. What do you mean by conduction band?

Ans: The range of energies possessed by conducting electrons is known as Conduction band. The conduction electrons are responsible for the conduction of current in a conducting material. So, these electrons are called as conduction electrons.

5. Classify the solid materials on the basis of energy gap.

Ans: Based on the energy gap the solid materials are classified into 3 types they are: conductors, insulators and semi conductors.

6. What are P-type and N-type semiconductors?

Ans: If we add trivalent impurities such as Aluminum to a pure semi conductor then the material is called P-type semi conductor. If a pentavalent impurity such as Arsenic is added to a pure semi conductor then the material is called N-type semi conductor.

7. What P-N junction diode?

Ans: If P- type and N- type semi conductors are combined to each other then the resultant structure is called P-N junction diode. This means if trivalent impurity is doped to one end

ZENER DIODE CHARACTERISTICS

VIVA QUESTIONS

1. What is a Zener diode?

Ans: A heavily doped p-n junction diode that os operated in the reverse breakdown region is called zener diode.

2. How a Zener diode behave in the forward bias region?

Ans: In the forward bias region, a zener diode behaves just as an ordinary p-n junction diode.

3. What are the zener voltages available?

Ans: Usually, the zener voltages are in the range of 2.4 to 200 V.

4. What is main application of main diode?

Ans: Zener diode is used as a voltage regulator.

5. What is the use of resistance in the circuit?

Ans: It limits the current through zener diode

6. What is the main difference between a zener diode and an ordinary p-n junction diode/

Ans: It has heavy doping and the consequent sharp breakdown.

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VIVA QUESTIONS

Newton's rings

1. What do you mean by interference of light?

Ans: The modification in the distribution of light energy due to the superposition of two or more waves of light is called interference of light.

2. What are the conditions for sustained interference?

Ans: (a) The light waves superposing at a point must have the same wavelength or same frequency.

(b) The amplitude of superposing light waves should be equal or almost equal.

(c) The waves superposing should either have the same phase or constant phase difference.

(d) Light sources must be very narrow and very close to each other.

3. Explain the term coherent sources?

Ans: Any two sources of light continuously emitting light waves having zero or constant phase difference are called coherent sources.

4 How Newton's rings are formed?

Ans: when a monochromatic light falls normally on plano convex lens and glass plate set, the light reflected by the lower surface of the lens and upper surface of the glass plate superpose to produce interference pattern. This circular interference pattern is called Newton's rings.

5. Why the central ring is dark?

Ans: The path difference of ($\lambda/2$) is introduced between the two rays as a result of the phase change of p for ray reflects from glass plate and no phase change for the ray reflects from plano convex lens. The central ring is dark because the two interfering rays have a path difference (1/2) in spite of the fact that the thickness is zero.

6. How to obtain central bright spot in Newton's rings?

Ans: By interpose a film of refractive index less than that of the material of the lens and grater than that of the material of the plate. Then the path difference between the two rays becomes λ produces central bright spot.

7. On what factors does the diameter of a ring depend?

Ans: It depends on the wavelength of the light and the radius of curvature of the plano-convex lens.

8. What are the applications of Newton's rings?

Ans: It is used to:

(i) Determine wavelength of unknown light source.

(ii) To determine radius of curvature of given lens.

(iii) Refractive index of given liquid.

9. Why the rings are circular ?

Ans: The path difference along the circle is constant that's why the rings are circular in this experiment.

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FLUID MECHANICS AND HYDRAULICS MACHINERY

LAB VIVA QUESTIONS

1) **Define centrifugal pump?**
   Ans: The pump which converts the mechanical energy in to hydraulic energy, by means of centrifugal force acting on the fluid is known as centrifugal pump.
2) **Define reciprocating pump?**
   Ans: The pump which converts the mechanical energy in to hydraulic energy by sucking the liquid into a cylinder in which a piston is reciprocating ,which exerts the thrust on the liquid and increases its hydraulic energy is known as reciprocating pump.
3) **What is impact of jet means?**
   Ans: It means the force exerted by the jet on a plate which may be stationary or moving.
4) **What is a turbine?**
   Ans: A turbine is a hydraulic machine which converts hydraulic energy in to mechanical energy
5) **What is a draft tube?**
   Ans: It is a pipe of gradually increasing area which connects the outlet of the runner to the tail race. It is used for discharging water from the exit of the turbine to the tail race.
6) **Define co-efficient of velocity of jet?**
   Ans: It is defined as the ratio between the actual velocity of a jet of liquid at vena-contracta and the theoretical velocity of jet.
7) **Define co-efficient of contraction of orifice meter?**
   Ans: It is defined as the ratio of the area of the jet at vena-contracta to the area of the orifice.
8) **Define co-efficient of discharge of orifice meter?**
   Ans: It is defined as the ratio of the actual discharge from an orifice to the theoretical discharge from the orifice.
9) **What is vena-contracta?**
   Ans: It is a section at which the stream lines are straight and parallel to each other and perpendicular to the plane of the orifice

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10) What is a fluid?

A fluid is a substance that can flow and take the shape of its container. Liquids and gases are examples of fluids

11) What is viscosity?

A: Viscosity is a measure of a fluid's resistance to flow. It is a property that describes how easily a fluid can be deformed or sheared.

12) What is Bernoulli's equation?

A: Bernoulli's equation relates the pressure, velocity, and height of a fluid flowing through a pipe or over a surface. It is based on the principle of conservation of energy

13) What is a boundary layer?

A: A boundary layer is the thin layer of fluid that forms near a solid surface in a flowing fluid. It is characterized by a gradual transition from the velocity of the fluid at the surface to the velocity of the free stream.

14) What is a lift force?

A: A lift force is the force that acts perpendicular to the direction of motion of a fluid around an object. It is responsible for the ability of wings to generate lift and keep airplanes in the air.

15) What is a drag force?

A: A drag force is the force that acts parallel to the direction of motion of a fluid around an object. It is responsible for the resistance that objects experience when moving through a fluid.

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SURVEY FIELD WORK

LAB VIVA QUESTIONS

1) What is surveying?

A: Surveying shows the relative positions of the objects on the surface of the earth

2) Which of the following is the first principle of surveying?

A: Whole to part

3) Which of the following type of surveying is used for exploring mineral wealth?

A: Mine surveying

4) In which of the following type of surveying only linear measurements are made?

A: Chain surveying

5) Which of the following classification in surveying is based on the instrument used?

A: Traverse surveying

6) In which of the following areas does compass surveying is not recommended?

A: Local attraction suspected areas

7) In which of the following cases compass surveying is recommended?

A: When area is large, undulating and crowded with many details

8) Which of the following is not required for chain surveying?

A: Dumpy level

9) Which of the following is the last step in chain surveying?

A: Running survey line

10) Which of the following cannot be done with the help of theodolite in surveying?

A: Measuring horizontal distances

11) Which of the following is an indirect method of surveying?

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A: Tacheometry

12) Which of the following branch of surveying is used to find the elevations of given points with respect to given or assumed datum?

A: Levelling

13) Which of the following surveying methods is meant to be having high precision?

A: Aerial photogrammetry

14) Which of the following doesn't describe the use of hydrographic surveying?

A: Establishing mean sea level

15) Which of the following type of ranging is done if both ends of surveying lines are visible?

A: Direct

16) Which of the following is not a method of levelling?

A: Traverse leveling

17) In which of the following type of surveying in the mean surface of the earth is considered as a plane and the spheroidal shape is neglected?

A: Plane Surveying

18) Which of the following doesn't involve the method of traversing?

A: Tacheometric surveying

19) Which of the following is not a method of plane table surveying?

A: Trisection

20) While taking Observations for the height and distances, which of the following method of surveying is used?

A: Geodic surveying

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Department of Electrical and Electronics Engineering

DC MACHINES AND TRANSFOMRERS LAB R20

VIVA-VOCE QUESTION AND ANSWERS

1. **What range of speed can you get with the field control method of speed control of d.c. shunt motor?**

   Speed higher than rated speed can be obtained by using this method.

2. **What range of speed can you get with the armature control method of speed control of d.c. shunt motor?**

   Speed lower than the rated speed can be obtained by the armature control method.

3. **When DC Generator fails to build up the voltage, what are the reasons?**

   No residual magnetism, reversal of field connections and the resistance in the load circuit may be greater than critical resistance

4. **What are the different losses in dc machine?**

- Armature and field copper loss
- Iron and magnetic losses (hysteresis and eddy current loss)
- Mechanical losses
- Stray-load losses

5. **Drawbacks of Brake test?**

   This test is performed with small motors only
   Internal losses cannot be determined

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6. **What is the most important precaution in anyexperiment with d.c. shunt motor?**
   Before switching on d.c. supply, a sufficient resistance should be putin series with thearmature of the d.c. shunt motor.
7. **What will happen if the d.c. shunt motor openedaccidentally running on no-load has its shunt field winding?**
   The field will be reduced to only to the value of residual flux.The speed will be very high. The parts of motor may even fly apart.
8. **What is the most essential condition for the voltagebuild up for a d.c. shunt generator?**
   There should be a residual magnetism in the poles of the DC shunt generator.
9. **Which material is used for the core of a transformer and why?**
   Laminations of specially alloyed silicon steel (silicon content 4–5 per cent) are used due to its high electrical resistance, high permeability, non- ageing characteristics and minimum iron loss.

10. What is stacking factor? What is its approximate value?

Stacking factor is the ratio of iron content in the laminated varnished Core by volume. Its value is about 90 per cent, that is, 10 per cent volume Is occupied by varnish and air.

11. What is the emf equation of a transformer?

$E_{rms} = 4.44$ Fm fN V

Where,

F_m = maximum value of the flux linkage with both the windings,

f = frequency of the supply,

N = number of turns.

12. Why are LT windings placed near the core?

LT windings are placed near the core to reduce the total dielectric Strength of the insulating materials provided on the winding.

13. How is magnetic leakage reduced?

Magnetic leakage is reduced to a minimum by sectionalizing and interleaving the primary and secondary windings.

14. What are the types of windings according to the construction?

According to the construction, the types of windings are:

1. Sandwich type and
2. Cylindrical type

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15. What is turn ratio of a transformer?

The ratio of the number of turns in the primary to the number of turns in the secondary windings is called the turn ratio or the ratio of transformation of the transformer, which is indicated by a constant

16. The required thickness of lamination in a transformer decreases when

the applied voltage increases

17. Oil in transformers is used to

Cool the windings

18. What do you mean by distribution transformers?

When transformers are used for distributing the energy from Transmission lines as well as net-works for local consumption and the secondaries are directly connected to the consumer's load, they are called distribution transformers.

19. What do you mean by power transformer?

Transformers that are used on transmission lines for the transmission and distribution of relatively large quantities of energy are called power transformers

20. What is called limb of a transformer?

The vertical portion of the iron core where the windings are placed is called limb of a transformer

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MECHATRONICS LAB
VIVA QUESTIONS

1. What are the characteristics of an LVDT (Linear Variable Differential Transformer)?

Answer: The characteristics of an LVDT include linearity, sensitivity, range, resolution, and frequency response.

2. How does a strain gauge work, and what are its characteristics?

Answer: A strain gauge measures strain by converting it into resistance changes. Its characteristics include gauge factor, linearity, and temperature sensitivity.

3. Explain the characteristics of a summing amplifier.

Answer: A summing amplifier combines multiple input voltages and produces an output voltage proportional to the algebraic sum of the inputs. Its characteristics include input impedance, gain, and accuracy.

4. What are the working principles and characteristics of a reflective opto transducer?

Answer: A reflective opto transducer detects changes in light intensity and converts them into electrical signals. Its characteristics include sensitivity, response time, and ambient light rejection.

5. How do you program logic gates, timers (TON, TOFF), and counters (UP, DOWN) in ladder programming?

Answer: Logic gates, timers, and counters can be programmed using ladder logic symbols in PLC programming.

6. How would you program and simulate a traffic light control system using ladder programming?

Answer: By using ladder programming, you can control the sequencing and timing of the traffic light system to simulate different traffic scenarios.

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7. What types of sensors can be used in ladder programming, and how are they programmed?

Answer: Digital sensors (e.g., proximity sensors) and analog sensors (e.g., temperature sensors) can be used. They are programmed to monitor specific conditions or values.

8. Explain the ladder programming and simulation of a lift control system.

Answer: Ladder programming is used to control the operation and floor selection of a lift system. Simulation helps test and validate the program's functionality.

9. How would you program a single solenoid spring return latch circuit using ladder programming?

Answer: A single solenoid spring return latch circuit can be programmed using ladder logic to control the activation and deactivation of the solenoid.

10. What are the differences between hydraulic and pneumatic circuits, and how would you program them in ladder programming?

Answer: Hydraulic circuits use liquid (usually oil), while pneumatic circuits use compressed air. Both can be programmed in ladder logic to control their respective components.

11. What is Automation Studio, and what can it be used for?

Answer: Automation Studio is software used for designing, simulating, and analyzing mechatronic systems, including hydraulic and pneumatic circuits.

12. How would you design and simulate series and parallel hydraulic cylinder circuits using Automation Studio?

Answer: Automation Studio allows you to design and simulate the connection and operation of hydraulic cylinders in series and parallel configurations.

13. Explain the design and simulation of a meter-in circuit using Automation Studio.

Answer: Automation Studio enables the design and simulation of a meter-in circuit that controls the flow rate of hydraulic fluid into an actuator.

14. What is a PID feedback controller, and how would you use it to control a proportional servo valve circuit?

Answer: A PID feedback controller is a control algorithm used to adjust the output of a system based on the error between the desired and actual values. It can be used to control a proportional servo valve circuit in Automation Studio.

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15. What is MATLAB, and what is it commonly used for?
Answer: MATLAB is a high-level programming language and environment used for numerical computation, data analysis, visualization, and algorithm development.

16. Give an example of a program you can write in MATLAB.
Answer: One example is a program that calculates the roots of a quadratic equation given the coefficients.

17. How would you simulate and analyze a PID controller using Simulink in MATLAB?
Answer: Simulink is a graphical programming tool in MATLAB that allows you to model, simulate, and analyze control systems. You can design a PID controller in Simulink and simulate its performance.

18. What is the role of the proportional, integral, and derivative terms in a PID controller?
Answer: The proportional term adjusts the output based on the current error, the integral term integrates the past errors to correct for steady-state errors, and the derivative term predicts future errors to improve system response.

19. How can you tune a PID controller for optimal performance?
Answer: PID controller tuning involves adjusting the proportional, integral, and derivative gains to achieve desired system response characteristics such as stability, responsiveness, and robustness.

20. What is the difference between open-loop and closed-loop control systems?
Answer: In an open-loop control system, the output is not influenced by the system's actual performance. In a closed-loop control system, the output is adjusted based on feedback from the system's sensors.

21. What is the purpose of feedback in a control system?
Answer: Feedback provides information about the system's output, which is used to adjust the control input and improve the system's performance.

22. How can you analyze the stability of a control system in MATLAB?
Answer: MATLAB offers tools to analyze the stability of control systems, such as calculating the system's transfer function, determining poles and zeros, and assessing stability criteria.

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23. What are the advantages of using MATLAB for control system analysis?
Answer: MATLAB provides a range of built-in functions, tools, and visualization capabilities that facilitate control system analysis and design, making it a powerful tool for engineers.

24. Explain the concept of transfer function in control systems.
Answer: The transfer function relates the Laplace transform of the system's output to the Laplace transform of its input and describes the system's dynamic behavior.

25. How can you plot the step response of a control system in MATLAB?
Answer: In MATLAB, you can use the step function to obtain the step response of a control system and plot it using the plot function.

26. How would you design and simulate a pressure intensifier circuit using Automation Studio?
Answer: Automation Studio allows you to design and simulate a pressure intensifier circuit that amplifies hydraulic pressure.

27. Explain the design and simulation of an accumulator circuit using Automation Studio.
Answer: Automation Studio enables the design and simulation of an accumulator circuit that stores hydraulic energy and provides supplementary power when needed.

28. What are the characteristics of a simple electro-hydraulic or electro-pneumatic circuit?
Answer: The characteristics of a simple electro-hydraulic or electro-pneumatic circuit include actuation control, force or pressure generation, and energy conversion.

29. How can you plot waveforms for different parameters in Automation Studio?
Answer: Automation Studio provides tools to plot waveforms for parameters such as pressure, flow rate, and position by simulating the system and capturing data.

30. What is the purpose of a sequencing circuit in a hydraulic system, and how would you design and simulate it in Automation Studio?
Answer: A sequencing circuit controls the sequential operation of hydraulic components. In Automation Studio, you can design and simulate a sequencing circuit to ensure the proper order of actuation.

31. Explain the design and simulation of a traverse and feed hydraulic circuit using Automation Studio.
Answer: Automation Studio allows you to design and simulate a traverse and feed hydraulic circuit that controls the movement of a hydraulic actuator in both directions.

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32. How would you design and simulate a hydraulic press and clamping system using Automation Studio?

Answer: Automation Studio enables the design and simulation of a hydraulic press and clamping system, which involves controlling the force applied for pressing and clamping operations.

33. What is the role of a proportional servo valve in a hydraulic system?

Answer: A proportional servo valve controls the flow of hydraulic fluid based on an input signal, allowing precise and proportional control of hydraulic actuators.

34. How can you achieve position control of a proportional servo valve circuit using a PID feedback controller in Automation Studio?

Answer: By incorporating a PID feedback controller in the control scheme of a proportional servo valve circuit, you can achieve precise position control of hydraulic actuators.

35. What are the advantages of using Automation Studio for designing and simulating hydraulic and pneumatic circuits?

Answer: Automation Studio provides a user-friendly interface, extensive component libraries, and simulation capabilities that allow engineers to design, validate, and optimize complex mechatronic systems.

36. How can you analyze the performance of hydraulic and pneumatic circuits in Automation Studio?

Answer: Automation Studio provides tools to analyze various performance parameters, such as pressure, flow rate, velocity, and energy consumption, through simulation results and waveform analysis.

37. What is the significance of meter-in and meter-out circuits in hydraulic systems?

Answer: Meter-in and meter-out circuits control the flow rate of hydraulic fluid into and out of an actuator, respectively, ensuring precise control of actuator speed and deceleration.

38. Explain the concept of regenerative circuit in hydraulic systems and how it can be designed and simulated in Automation Studio.

Answer: A regenerative circuit allows the hydraulic fluid to bypass the directional control valve, resulting in faster actuator speeds. Automation Studio enables the design and simulation of regenerative circuits.

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(NAAC Accredited, Approved by AICTE, Permanently Affiliated to JNTUK, Kakinada)
Gajula Rega, Vizianagaram - 535 002, ANDHRA PRADESH, INDIA
II-B.TECH II-SEM MECHANICAL ENGINEERING

Subject Name: THEORY OF MACHINES LAB
Subject code:-R2022037
Name of the faculty:-S.PRASANTH

LAB VIVA QUESTIONS

1. What is meant by mechanism?
   a system of parts working together in a machine; a piece of machinery.
2. Define Machine.
   A machine is a device which receives energy in some available form and utilizes it to some particular type of work.
3. Define Dynamics of Machines.
   It deals with the study of forces acting on the parts of machines.
4. What is meant by slider crank mechanism?
   The Slider-crank mechanism is used to transform rotational motion into translational motion by means of a rotating driving beam, a connection rod and a sliding body.
5. What is your aim of the experiment?
   To find out the slider velocity and angular velocity of the experiment.
6. Applications of slider crank mechanism?
   Almost all reciprocating engines use cranks (with connecting rods) to transform the back-and-forth motion of the pistons into rotary motion. The cranks are incorporated into a crankshaft.
   - Mechanical pencil sharpener
   - Fishing reel and other reels for cables, wires, ropes, etc.
   - Manually operated car window.
7. What is meant by velocity?
   The speed of something in a given direction.
8. What is meant by angular acceleration?
   Angular acceleration, also called rotational **acceleration**, is a quantitative expression of the change in **angular** velocity that a spinning object undergoes per unit time. It is a vector quantity, consisting of a magnitude component and either of two defined directions or senses.
9. What is meant by beam?
   Beams are generally horizontal structural members which transfer loads horizontally along their length to the supports where the loads are usually resolved into vertical forces. **Beams** are used for resisting vertical loads, shear forces and bending moments
10. What are the types of beam?
    a. Simply Supported Beam
    b. Fixed Beam
    c. Cantilever Beam
    d. Continuously Supported Beam
11. What are the types of Loading?

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a. Point load
b. Uniformly distributed load
c. Uniformly varying load

12. What Is the aim of experiment?
To find the natural efficiency of the beam.

13. What is meant by natural frequency?
the frequency at which a system oscillates when not subjected to a continuous or repeated external force.

14. What is meant by frequency?
It is defined as the number of cycles per second.

15. What is the unit of frequency?
The **SI unit** of frequency is the **hertz** (Hz), named after the German physicist Heinrich **Hertz**. One **hertz** means that an event repeats once per second. A previous name for this unit was cycles per second (cps). The **SI unit** for period is the second.

16. What is the use of cam?
A **cam** is a rotating or sliding piece in a mechanical linkage **used** especially in transforming rotary motion into linear motion or vice versa.

17. What is meant by camp jump phenomenon?
Follower looses contact with cam surface when cam rotates beyond particular speed due to inertia forces

18. What are types of cam?
a. Wedge or flat cams
b. Radial or Disc Cams
c. Spiral cams
d. Cylindrical cams
e. Conjugate cams
f. Globoidal Cams
g. Spherical cams

19. What are the types of follower available?
a. (a) Knife edge follower
b. (b) Roller follower
c. (c) Flat faced follower
d. (d) Spherical follower

20. What is the aim of this experiment?
jump-speed characteristics of the cam & follower mechanism.

21. What is meant by governor?
Governors are also known as speed limiters; they are used in different places like engines to measure and regulate the speed of an engine.

22. What are types of governors?
a. Watt governor

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b. Porter governor
c. Proell governor
d. Hartnell governor

23. What is meant by stiffness of spring?
For an elastic body with a single degree of freedom (DOF) (for example, stretching or compression of a rod), the **stiffness** is **defined** as k = F δ {\displaystyle k={\frac {F}{\delta }}} ... δ is the displacement produced by the force along the same degree of freedom (for instance, the change in length of a stretched **spring**).

24. What is meant by sensitivity of governor?
Sensitivity is **defined**as the ratio of the **mean** speed to the speed range of the **governor** over its limits of operation.

25. What are classification of governors?
Generally Governors can be classified as either **Centrifugal** or**Inertia**.

26. What is meant by centrifugal governor?
The effort of the governor is obtained from the change in centrifugal force on (usually) two rotating masses known as **Balls**, when an increase or decrease in governor speed occurs.

27. What is meant by inertia governors?
Inertia Governors work on a different principle. The governor balls are arranged so that the inertia forces caused by angular acceleration or retardation of the governor shaft tend to alter their positions. The amount of the displacement of the balls is controlled by springs and the governor mechanism to alter the supply of energy to the engine.

28. What is meant by gyroscope?
a device consisting of a wheel or disc mounted so that it can spin rapidly about an axis which is itself free to alter in direction. The orientation of the axis is not affected by tilting of the mounting, so gyroscopes can be used to provide stability or maintain a reference direction in navigation systems, automatic pilots, and stabilizers.

29. What is meant by gyroscope couple?
Gyroscopic Couple. If a uniform disc of polar moment of inertia is rotated about its axis with an angular velocity, its Angular Momentum is a vector and can be represented in diagram (c) by the lineup which is drawn in the direction of the axis of rotation.

30. What is the use of gyroscope couple?
Gyroscopes can be very perplexing objects because they move in peculiar ways and even seem to defy gravity. These special properties make gyroscopes extremely important in everything from your bicycle to the advanced navigation system on the space shuttle. A typical airplane uses about a dozen gyroscopes in everything from its compass to its autopilot. The Russian Mir space station used 11 gyroscopes to keep its orientation to the sun, and the Hubble Space Telescope has a batch of navigational gyros as well.

31. What is meant by centrifugal force?
a force, arising from the body's inertia, which appears to act on a body moving in a circular path and is directed away from the centre around which the body is moving.

32. What is meant by moment of inertia?

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a quantity expressing a body's tendency to resist angular acceleration, which is the sum of the products of the mass of each particle in the body with the square of its distance from the axis of rotation.

33. What is meant by whirling of shaft?
Whirling speed is also called as Critical speed of a **shaft**. It is **defined** as the speed at which a rotating **shaft** will tend to vibrate violently in the transverse direction if the **shaft** rotates in horizontal direction. In other words, the **whirling** or critical speed is the speed at which resonance occurs.

34. What is meant by flywheel?
A **flywheel** is a rotating mechanical device that is **used** to store rotational energy. **Flywheels** have an inertia called the moment of inertia and thus resist changes in rotational speed. The amount of energy stored in a **flywheel** is proportional to the square of its rotational speed.

35. What do you mean by inertia?
The property of matter offering resistance to any change of its state of rest or of uniform motion in a straight line is known as inertia.

36. What is meant by axisymmetric?
symmetrical about an axis.

37. What is meant by degree of freedom?
In statistics, the number of *degrees of freedom* is the number of values in the final calculation of a statistic that are free to vary. The number of independent ways by which a dynamic system can move, without violating any constraint imposed on it, is called number of *degrees of freedom*.

38. What is meant by gear?
a toothed wheel that works with others to alter the relation between the speed of a driving mechanism (such as the engine of a vehicle) and the speed of the driven parts (the wheels).

39. What is meant by gear ratio?
The **Gear Ratio** is **defined** as the input speed relative to the output speed.

40. What is meant by gear train?
a system of gears which transmits motion from one shaft to another.

41. What is meant by radius of gyration?
the distance from an axis at which the mass of a body may be assumed to be concentrated and at which the moment of inertia will be equal to the moment of inertia of the actual mass about the axis, equal to the square root of the quotient of the moment of inertia and the mass.

42. What is meant by balancing of rotating mass?
The **balancing of rotating bodies** is important to avoid vibration. In heavy industrial machines such as gas turbines and electric generators, vibration can cause catastrophic failure, as well as noise and discomfort. In the case of a narrow wheel, balancing simply involves moving the centre of gravity to the centre of rotation. For a system to be in complete balance both force and couple polygons should be closed.

43. What is meant by mechanism?
When one of the links of a kinematics chain is fixed, the chain is known as mechanism. It may be used for transmitting or transforming motion e.g. engine indicators, typewriter etc.

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ELECTRONIC DEVICES AND CIRCUITS LAB

LAB VIVA VOCE QUESITIONS AND ANSWERS

EXPERIMENT NAME: V-I CHARACTERISTICS OF PN DIODE

1. What is the difference between Electronics and Electrical?

Ans: Electronics is the science which deals with the currents in semiconductor materials. Vacuum tubes. Where electrical deals with the currents in conductors.

2. What are types of materials?

Ans: Conductors (Energy gap is zero)
semiconductors (Energy gap is narrower) (si 1.1ev,ge 0.7ev)
Insulators (energy gap is widest).

3. What are the Semiconductor and conductors?

Ans: Semiconductor which has 4 electrons in its valance band, and conductors has more than 4 electrons its valance band (best conductors: Ag,Al,Cu)

4. Difference b/w intrinsic and extrinsic Semiconductors?

Ans: Intrinsic semiconductors are pure semiconductors, Extrinsic are impure, i.e.by adding impurities (tri, pentavalent) Extrinsic semiconductors formed (P, N Type).

5. Why silicon is more preferred than germanium?

Ans: For Si break Down voltage Is more than Ge, reverse saturation current Is less in Si, Si is cheap (raw material Is sand).

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6. What are the types in Extrinsic semiconductors and how they formed?

Ans: P-Type and N-Type

by adding trivalentimpurities (arsenic, antimony, phosphorus) P-Type semiconductors created.

by adding pentavalent impurities (aluminum, boron) N-Type semiconductors created.

7. What is Doping?

Ans: The processes of adding impurities.

8. How the PN Junction will be formed?

Ans: In a piece of semiconductor material, if one half is doped by P type impurity and the other half is doped by N type impurity

9. What is Barrier Potential (cut in voltage)?

Ans: The forward voltage at which the current through the junction starts increasing rapidly

10. What is Forward bias and Reverse bias?

Ans: In diode's anode(P) voltage is more than cathode(N) voltage its forward bias, if anode voltage is less than cathode voltage its reverse bias.

11. What are Diffusion and Drift currents?

Ans: Drift current depends on the electric field applied, if there is no electric field there is no drift current. Diffusion current occurs even though there is not an electric field applied to the semiconductor.

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12. What is mean by 1N4007?

Ans: 1N – single junction

400x-is indicates the voltage, current and power

4007 reverse voltage from 50v to 1000v, max forward current is 1A

13. Difference b/w PN, Zener Diode?

Ans: PN is lightly doped, Zener heavily doped

14. Define PIV(Peak inverse voltage)?

Ans: It is the maximum reverse voltage that can be applied to the Diode. if the voltage across the junction exceeds PIV, under reverse bias condition, the junction gets damaged.

15. Define Reverse saturation current?

Ans: It is the current due to the diffusive flow of minority electrons from p- side to N- side, and minority holes from N- side to P- side.

16. How do we test a diode using a multimeter?

Ans: Connect anode of diode to + terminal of multimeter and cathode to Negative terminal if voltage is 0.3 to 0.7 then diode is good.

17. Explain the capacitive effects in a junction.

Ans: Diffusion capacitance occurs in Forward bias, Transition capacitance exist in Reverse Bias.

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18. What is mean by Break down, difference b/w avalanche Break down and Zener Break down?

Ans: Avalanche breakdown occurs in PN diode due to impact ionization of electron-hole pair, zener break down occurs in Zener diode due to electron hole pair break due to reverse bias voltage.

19. How PN junction diode does acts as a switch?

Ans: Apply voltage in one direction; it acts like an open circuit. Reverse the polarity of the voltage and it acts like a short circuit.

20. What is mean by static and dynamic resistances?

Ans: Static resistance is the ratio of V,I at operating (Q) point, dynamic resistance is inverse to the slope of the forward bias characteristics curve at operating point

EXPERIMENT NAME: HALF WAVE RECTIFIER

1. **What is the difference b/w AC and DC supply, what are the advantages of each?**
   Ans: Ac supply is sinusoidal function of t, but Dc supply is constant for every time, dc can be storable but not Ac, Ac can transfer for a long distance but not DC.

2. **What is meant by regulation? Why is it required?**
   Ans: It is a measure change in the magnitude between the sending and receiving end of a component.

3. **How to convert AC to DC?**
   Ans: Step down Transformer – Rectifier – Filter – Regulator

4. **What is a half wave rectifier?**
   Ans: In a half wave rectifier only one half cycle of ac voltage is taking. The circuit is given. Here only one diode is using. During the positive half cycle of ac voltage the diode conducts. So current

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flows through load. During the negative half cycle, the diode is reverse biased .So no current flows through the diode. This type of rectification needs only one diode. But the efficiency is not so good as that of full wave rectifier.

5. **What is transformer and types?**

Ans: Transformer works based on Induction Principle, when Two coils are placed nearly then voltage transfer exist.

Types: Step down, step up Transformer

6. **What is a Rectifier?**

Ans: A rectifier is an electrical device that converts alternating current (AC), which periodically reverses direction, to direct current (DC), which flows in only one direction. The process is known as rectification.

7. **What is filter, regulators?**

Ans: Filter coverts the pulsating DC to Fluctuating DC.

Regulator convers fluctuating DC to exact DC.

8. **What is a ripple Factor?**

Ans: Ripple factor can be defined as the variation of the amplitude of DC (Direct current) due to improper filtering of AC power supply, it can be measured by RF = Vrms /Vdc.

9. **What is Efficiency?**

Ans: Rectifier efficiency is the ratio of the DC output power to the AC input power.

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10. What is PIV?

Ans: The peak inverse voltage is either the specified maximum voltage that a diode rectifier can block, or, alternatively, the maximum that a rectifier needs to block in a given application.

11. What is the importance of PIV?

Ans: If the applied voltage in reverse biased condition exceeds PIV rating of the diode, then the diode may damaged.

12. Define transformer utilization factor, peak factors?

Ans: TUF = dc power delivered to load/ac rating of transformer secondary

Peak factor = peak value/ rms value

13. Define average value, RMS value, what is the significance of each?

Ans: Average is defined as sum per count, i.e mean or area of one cycle per time period

RMS is Root of Mean (average) of squares.

If data contains both +&-signs then average value cannot give perfect idea about it, then Rms value gives idea about data.

14. Explain the importance of ripple and regulation in the case of a rectifier.

Ans: Ripple factor gives the idea about fluctuations in signal, if it is less means ripples are less for DC ripple factor is Zero.

Regulation gives idea about the variation of DC output voltage as a function of DC load current.

% regulation $=(V_{NL}-V_{FL})/V_{FL}$ X 100%

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15. What are the different filters used in AC to DC converters? Which is best and why?

Ans: L, C, LC (L-section), π-section, RC filters. Best one is L-section because ripple factor is independent of load.

16. Define line regulation and load regulation?

Ans: Line regulation= change in output voltage/ change in input voltage

Load regulation= (no load voltage- full load voltage)/ no load voltage

17. Define knee voltage?

Ans: It is the minimum amount of voltage which is required to operate Diode.

18. Define knee current?

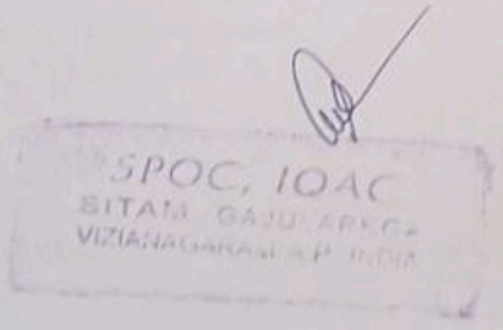
Ans: It is the minimum current through Zener diode in reverse bias.

19. Define why diodes are not operated in the breakdown region in rectifiers?

Ans: In breakdown region, a diode has a risk of getting damaged or burnt because the magnitude of current flowing through it increases in an uncontrollable manner.

20. Define why series inductor and L-section filters cannot be used with half-wave rectifiers?

Ans: Series inductor and L-section filters cannot be used with half-wave rectifiers because operation of series inductor depends upon the current through it and needs a minimum current to flow at all times.



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Department of Computer Science and Engineering

Database Management Systems

Lab Viva Question & Answers

1. What is DBMS?

Software that manages data
Allows user to DEFINE datatypes and constraints, CONSTRUCT (store) data and MAINPULATE data through queries.
Hierarchical, Network, RDBMS, OODBMS NOSQL

2. Advantages of DBMS

Redundancy of data avoided.
Restricted and protected access to data.
Permanent/Persistent storage for program objects.
Back up recovery services.
Efficient query processing.
Storage structure and indices for efficient query processing and retrieval.

3. What is DML?

Data Manipulation Language. High level non procedural language (SQL).
Can be embedded into programming languages. CRUD operations to create, read, update, and delete data

4. Commands of DML

INSERT, SELECT, UPDATE and Delete commands.
SELECT, INSERT, UPDATE, DELETE, MERGE in SQL

5. What is primary key?

If a relation has many candidate keys, one is chosen arbitrarily to be the primary key.
Primary key attributes are underlined. PK used to identify tuple uniquely.

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6. What are the types of databases?

Structured, Unstructured, semi-structured.

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7. Types of abstraction

Internal Level or Physical Level- Physical storage structure of the database
Conceptual or Logical Level- Describes the Database structure of the whole database

8. What is a candidate key?

A relational schema may have > 1 key. Each of these keys is called candidate key.

9. What is the use of DBMS?

Optimize and manage the storage and retrieval of data from databases
Business, Social network, Science and research, Finance, Airline…

10. What are the types of relationships?

1:1 One-to-one relationship.
1:N One-to-many relationship.
M:N Many-to-many relationship.

11. What is a relation schema?

Description of a relation.
Consists of the relation's name, set of attributes/field names/column names.
Set of relational tables and associated items that are related to one another.

12. What is drop?

Delete a whole database or just a table.The DROP statement destroys the objects

13. What is an entity?

Basic concept of ER Model.
Refers to each specific object in the mini world.
Physical or conceptual.
Entities have attributes. Weak or Strong entity.

14. What is entity set?

Collection of similar entities. (Same type: either strong or weak)

15. What is weak entity set?

An entity set that does not have a primary key.
Does not contain sufficient attributes to uniquely identify its entities

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16. Types of inner and outer join (explain too)?

Inner Join- Natural Join and EQUI Join
Outer Join- full outer join, left outer, right outer join

17. Difference between primary and unique key?

Unique key is same as that of PK except PK will not accept NULL values whereas Unique key can accept NULL values

18. What is normalization?

Reducing Null entries. Can't achieve through ER Diagram.

19. What is view?

A view is the result set of a stored query on the data.
Hide the complexity that exists in a multiple table join.

20. What is DCL?

Data control language (DCL) Similar to a computer programming language used to control access to data stored in a database (Authorization). (SQL).

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Department of Computer Science and Engineering

Data Warehousing and Data Mining

Lab Viva Question & Answers

1. What is a data warehouse?

A data warehouse is a huge store of data accumulated from a broad range of sources within an organization and used to guide business decisions.

2. What is a dimensional table?

Dimensional tables include textual attributes of measurement saved in the fact tables. A dimensional table is a group of hierarchies, categories, and logic which can be used for the customer to traverse in hierarchy nodes.

3. What is a fact table?

The fact table includes the measurement of the business process. Fact table includes the foreign keys for the dimension tables.

Example: If we are business phase is "paper production," "normal production of paper by one device, "or "weekly production of paper" will be treated as a measurement of the business process.

4. What are the different methods of loading dimension tables?

There are two different methods to load data in dimension tables:

Conventional (slow): All the constraints and keys are validated against the information before, it is loaded, and this method data integrity is maintained.

5. Describe the foreign key columns in fact tables and dimension tables?

Foreign keys of dimension tables are the primary key of entity tables.

Foreign keys of fact tables are the primary key of dimension tables.

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6. What is Data Mining?

Data mining is the phase of analysing data from several perspectives and summarizing it into useful data.

7. What is Business Intelligence?

Business Intelligence defines the technologies, functions, and systems for the collection, integration, analysis, and demonstration of business data and sometimes to the data itself. The purpose of business intelligence is to provide better business decision making. Thus, BI is also defined as a decision support system (DSS).

8. What is OLTP?

OLTP stands for online transaction processing. This system is a function that modifies data the instance it receives and has a huge number of concurrent users.

9. What is OLAP?

OLAP stands for online analytical processing. This system is a function that collects, manages, processes, and presents multidimensional data for analysis and management process.

10. What is BUS Schema?

BUS schema is collected from a master suite of confirmed size and a standardized description of facts.

11. What is ODS?

ODS stands for Operational data store. A database architecture that is a repository for near real-time operational records rather than long term trend data. The ODS may further become the enterprise shared an operational database, allowing operational functions that are being re-engineered to use the ODS as there operational databases.

12. What is ETL?

ETL stands for extraction, transformation, and loading process. ETL is software that allows the business to develop their disparate records while moving it from place to place, and it doesn't really matter that data is in several forms or formats. The data can come from any source. ETL is powerful enough to manage such data disparities.

13. What is VLDB?

VLDB stands for a Very large database. A one terabyte database would generally be considered to be a VLDB. Typically, there are decision support applications or transaction processing applications serving a huge number of users.

14. What is real-time data warehousing?

Data warehousing capture business event data. Real-time data warehousing capture business event data as it occurs. As soon as the business event is complete, and there is data about it, the completed event data flows into the data warehouse and becomes feasible instantly.

15. What are conformed dimensions?

Conformed dimension defines the exact same thing with every possible fact table to which they are joined. They are simple to the cubes.

16. What are non-additive facts?

Non-additive facts are the facts that cannot be examined for any of the dimensions present in the fact table. They are not treated as useless. If there is a transformation in dimensions, the same facts can be useful.

17. What is Star Schema?

Star schema is a type of organizing the tables such that we can fetch the result from the database instantly in the warehouse environment.

18. What is a Snowflake Schema?

Any dimension with extended dimensions is called snowflake schema, the dimension may be interlinked or may have one too many relationships with other tables. This schema is normalized and outcome in complex join and very complex queries as well as slower results.

19. What is a surrogate key?

A surrogate key is a substitution for the essential primary key. It is just a unique identifier or statistic for each row that can be used for the primary key to the table.

20. What is a junk dimension?

A number of very small dimension may be lumped together to form a single dimension, a junk dimension is the attributes are not closely related. Grouping of random flags and text attributes in dimensions and changing them to a separate subdimension is called the junk dimension.

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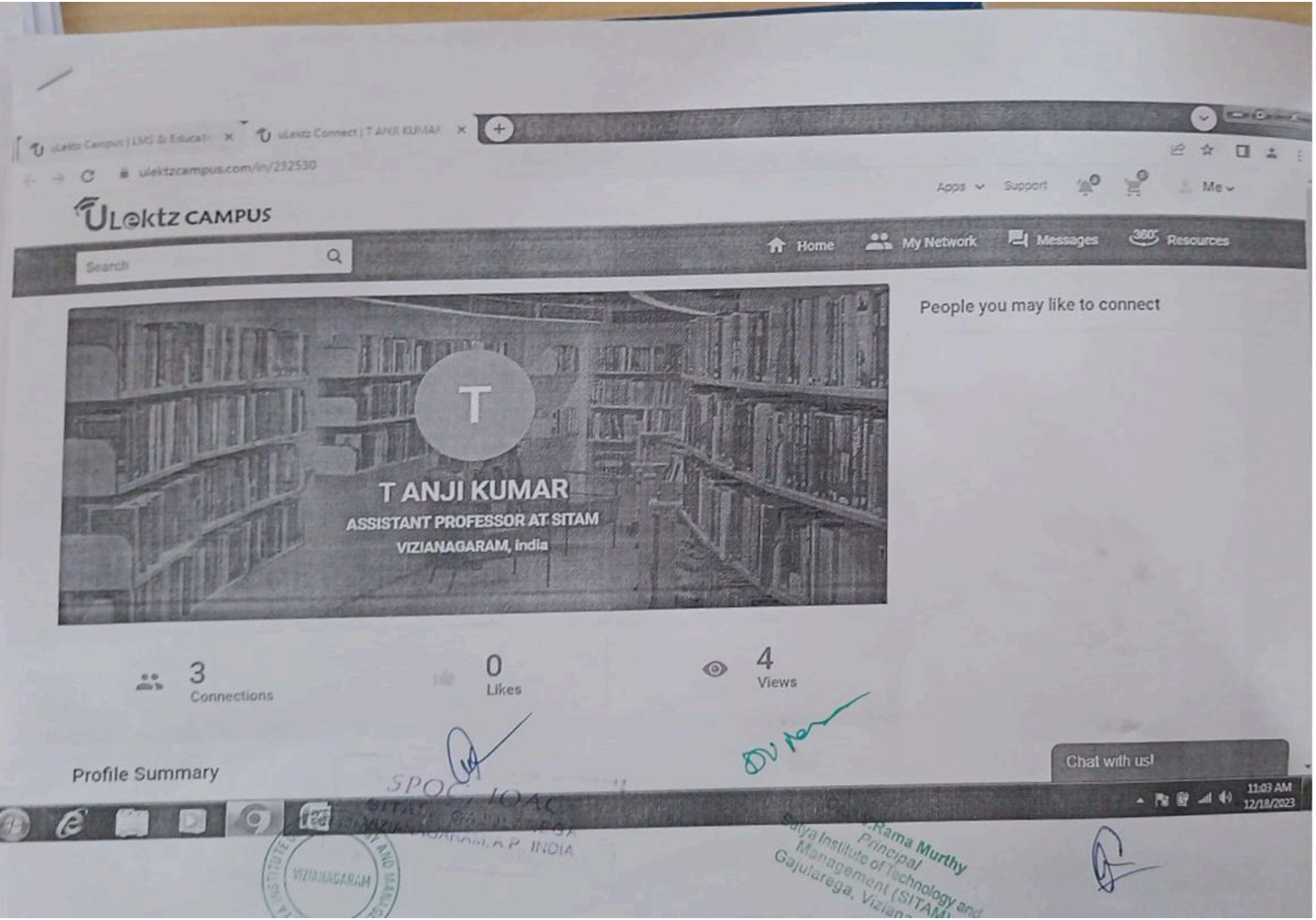

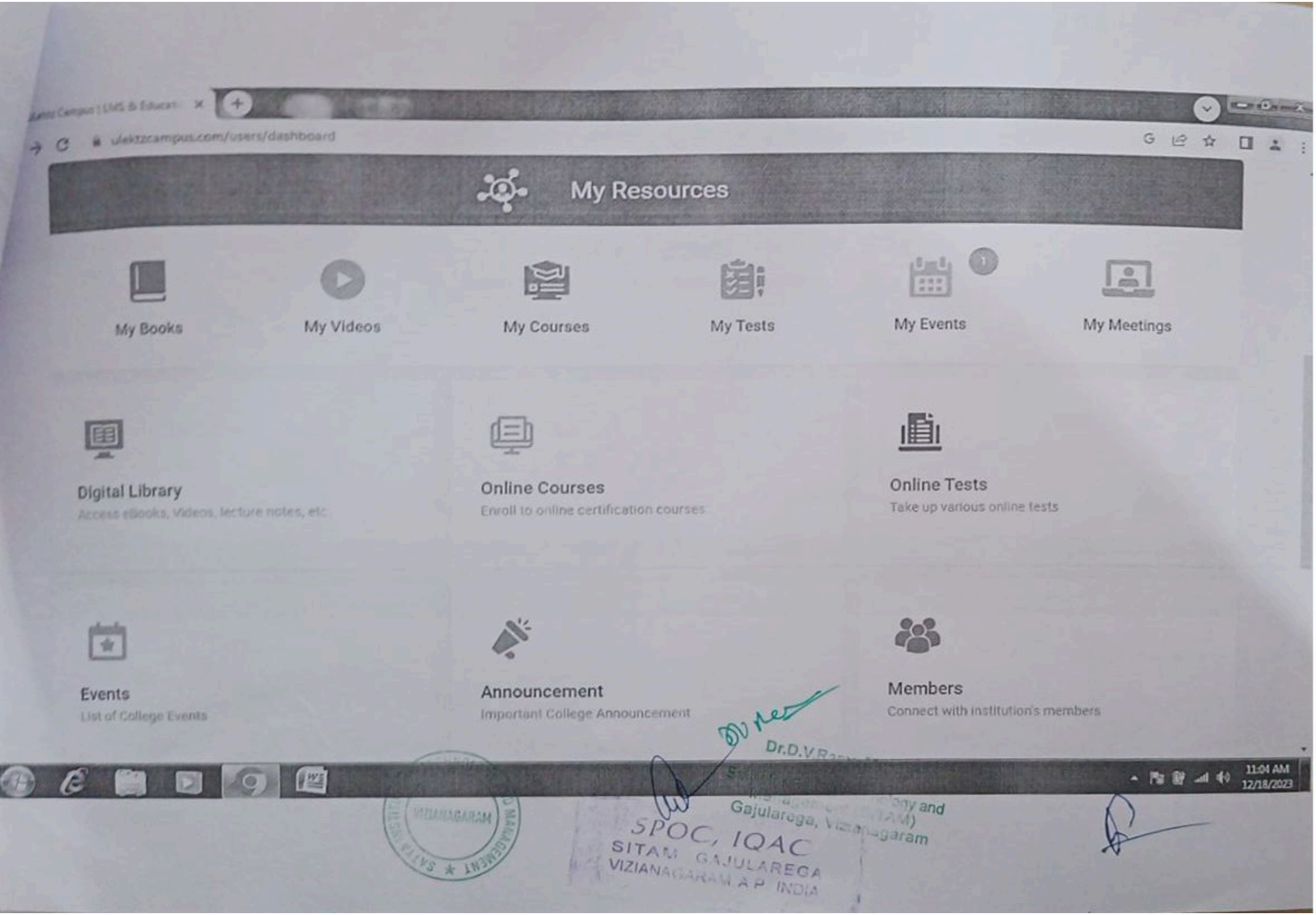

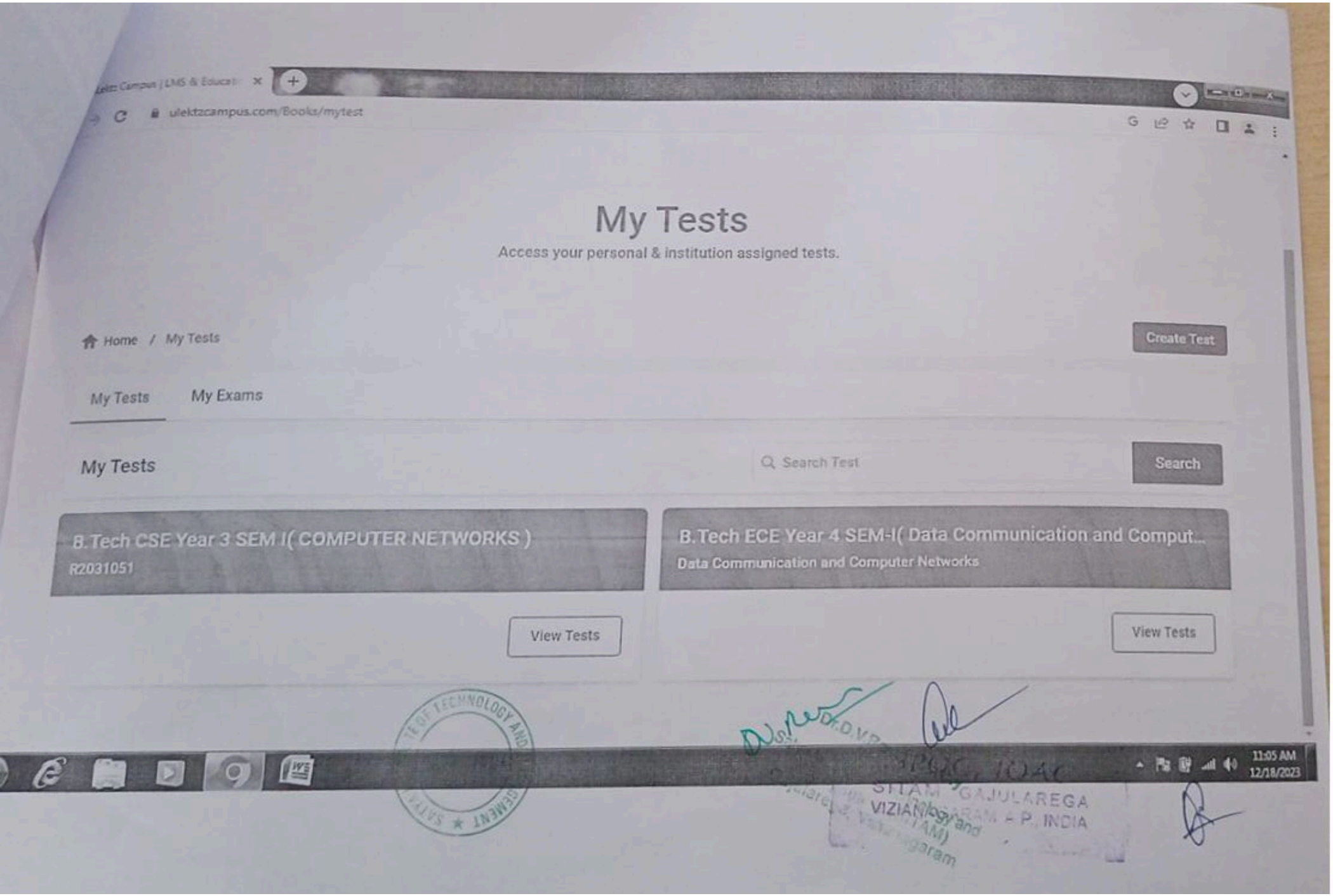

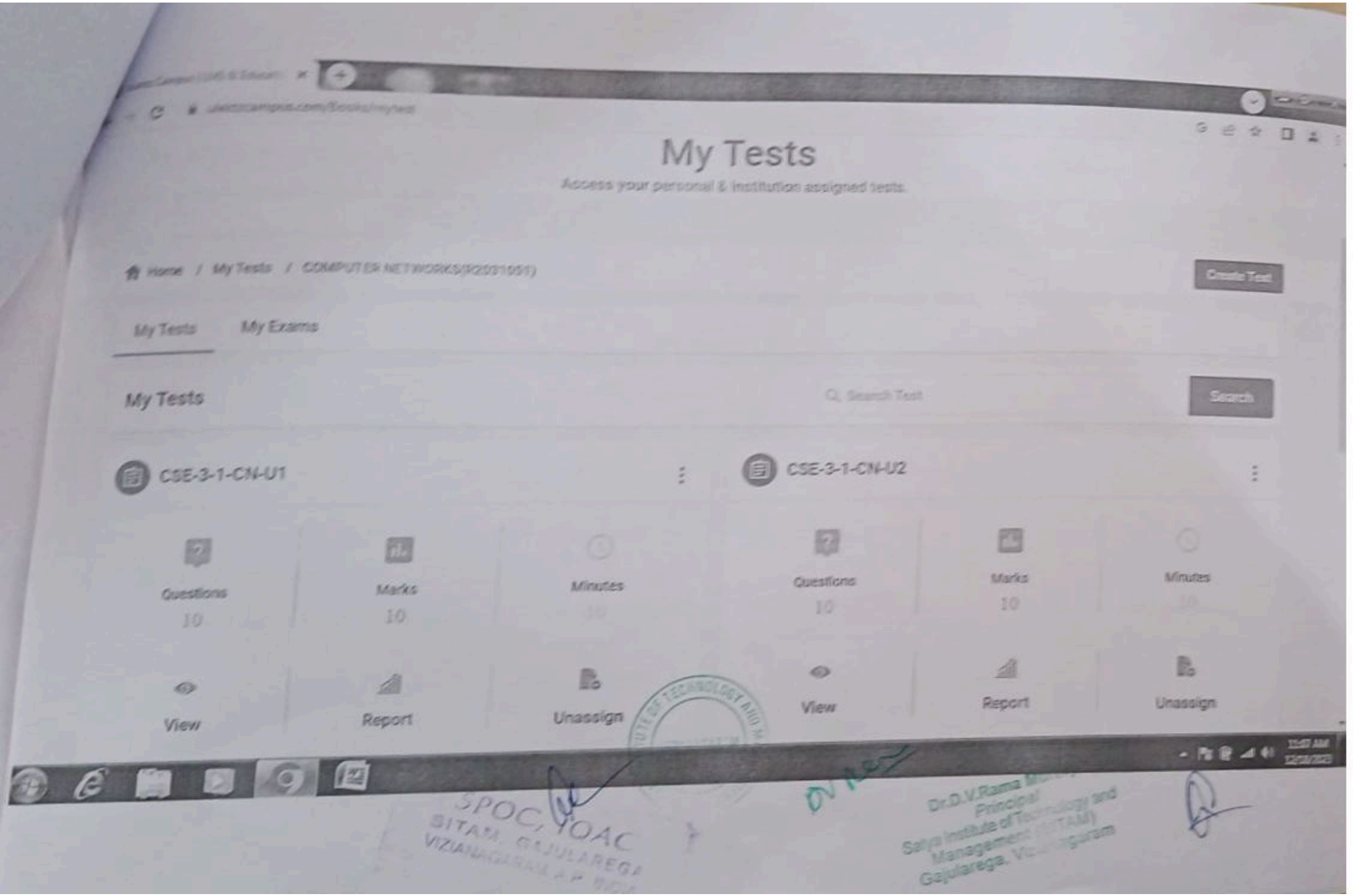

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CSE-3-1-CN-U1

Minutes: 10 | Total Questions: 10 | Total Marks: 10

MCQS

1. The number of layers in Internet protocol stack

1 Marks | 0 Negative marks

(a) 5

(b) 7

(c) 6

(d) None of the mentioned

2. The number of layers in ISO OSI reference model

1 Marks | 0 Negative marks

(a) 5

(b) 7

(c) 6

INSTITUTE OF TECHNOLOGY AND MANAGEMENT VIZIANAGARAM

Dr.D.V Rama Murthy

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(SITAM) and ega, Vizianagaram

11:08 AM 12/18/2023