Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

Preamble: This feedback form AC 23 is intended to receive feedback on the quality of questions to ensure that the intended learning outcomes in terms Knowledge, Understanding and Skill are assessed. Also this form helps us to improve the quality of the questions that appear in the assessment instrument.

The Vision of the Institute
To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. C. V. Rao Designation : Associate Prof.
Organization : RIT
Academic Year : 2021-22
Semester : II
Curse Title : communicative English

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 2 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Question Quality

Commendable Excellent Good Satisfactory

8. General Remarks

Signature

NSRIT

Semester End Regular/Supplementary Examination, April - 2022

Degree	B. Tech. (U. G.)	**Program**	Common to All			**Academic Year**	2021 - 2022
Course Code	20HSX01	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	I
Course	COMMUNICATIVE ENGLISH						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What according to Kalam were the essential elements of a strong nation?	20HSX01.1	L1
2	When does ordinary men and women become great heroes according to Nehru?	20HSX01.2	L1
3	Why did Satya Nadella come to Microsoft when he had a choice?	20HSX01.3	L1
4	Give the meaning of "Stay Hungry, Stay Foolish," in your own words	20HSX01.4	L1
5	Write briefly on Hawking's childhood and early education	20HSX01.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Summarize the story "Deliverance" written by Munshi Prem Chand	6M	20HSX01.1	L2
6 (b)	Write a paragraph on "Airplanes have changed our lives"	6M	20HSX01.1	L2
	OR			
7 (a)	Discuss on the various elements that Abdul Kalam talked about in his Presidential Address	8M	20HSX01.1	L2
7 (b)	Fill in the blanks with suitable affixes 1. He was acting in a very _____ way (child) 2. She looked _____ .She started to cry (happy) 3. He passed his exam. He was _____ for the second time (succeed) 4. The team that he supported was able to win the _____ (champion)	4M	20HSX01.1	L2
8 (a)	The poem 'Bosom Friend' reflects the poet's strong objection to the caste prejudices. Substantiate.	8M	20HSX01.2	L2
8 (b)	Fill in the blanks with Prepositions: 1. The man was killed____ an axe 2. Children usually fond____ chocolates 3. We have finished the project___ 9:00 am 4. Salman is standing ____ his parents	4M	20HSX01.2	L1
	OR			
9 (a)	Nehru inspired Indira Gandhi through his letters. Substantiate with reference to 'Nehru's letter to his daughter, Indira on her birthday'	6M	20HSX01.2	L2
9 (b)	You are a sales representative of ETC Enterprises. Write a letter to Mr. James of Hitachi, introducing one of your new products or services. Be sure to cover all the important details about your products/services	6M	20HSX01.2	L2
10 (a)	"The best work happens when you know that it's not just work, but something that will improve other people's lives." Explain in the context of the email written by Satya Nadella to his employees	8M	20HSX01.3	L2
10 (b)	Fill in the blanks with suitable verb forms: 1. My brother ____ (pay) fee regularly 2. Ramana _____ (visit) Agra recently 3. Prathima _____ (be) a house-wife 4. If CM calls on, we _____ (talk) to him	4M	20HSX01.3	L1

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	OR			
11 (a)	Virginia Woolf's imaginative reconstruction of Judith's tale highlights the plight of woman of genius born in Shakespeare's time. Discuss	8M	20HSX01.3	L2
	Provide one word substitute for the following:			
11(b)	1. One who questions everything 2. That which cannot be avoided 3. One who looks the darker side of everything 4. One who is easily deceived	4M	20HSX01.3	L1
12 (a)	Do you agree with Steve Jobs' philosophy - You have to trust in something – your gut, destiny, life, karma, whatever. Justify	6M	20HSX01.4	L2
	Paraphrase the following text:			
12 (b)	Newspaper headlines are excellent examples of compressed language – passive phrases, noun phrases or to-infinitive phrases instead of complete sentences. This is done to save on space and to make headlines quite catchy and spicy. Since most news reporting is about what happened in the most recent past, much of news reporting is in the past tense forms but where newspapers report events to come, a variety of future time references may be used. This is an important point to remember when using information in news headlines to complete a news story or to develop news headlines from a given news story	6M	20HSX01.4	L2
	OR			
13 (a)	Explain the poem "Telephone Conversation" in your own words.	8M	20HSX01.4	L2
	Change the following into Reported Speech:			
13 (b)	1. "Tomorrow is a holiday and all shops will remain closed," the shopkeeper said 2. "I may return the cassette to her" said Venkat Ramana 3. "Bring the culprit to me," the policeman said 4. "Don't touch the door, the paint is wet," the painter said	4M	20HSX01.4	L2
14 (a)	Write an essay on "Stephen Hawking – Positivity Benchmark"	6M	20HSX01.5	L2
	Write a precis for the following passage:			
14 (b)	All of us suffer from headache. It can be of many types. The tension headache is short lived. But there can be headache due to body posture. Migraine headache is caused due to nausea, vomiting and irritability. In headache pain starts from irritated nerves of muscles; blood vessels and bones. There are many other factors like food environment and body postures that may result in a headache. It can be cured through physical examination of doctor. Other diseases like B.P., diabetes may also be got checked. The best technique is to have self-care or to use pain killers as per prescription of the doctor	6M	20HSX01.5	L2
	OR			
15 (a)	Explain the theme of the poem, "Still I Rise"	6M	20HSX01.5	L2
15 (b)	Write an essay on "Social media has made us less social"	6M	20HSX01.5	L2

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Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. A. LAKSHMAN Designation Assoc. Professor
Organization : Vignan's Institute of Information Technology (A)
Academic Year : 2021-22
Semester : II Semester
Curse Title : LA & DE

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

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6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

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7. In general, how do you rate the quality and standard of questions?

A Lakshman
09/04/22

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Madhuri Designation : Asst. Prof
Organization : Lendi Instt of Engg & Tech.,
Academic Year : 2021-22
Semester : I
Curse Title : LA&ODE

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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7. In general, how do you rate the quality and standard of questions? 5

Semester End Examination, May, 2022

Degree	B. Tech. (U. G.)	Program	Common to All			Academic Year	2021 - 2022
Course Code	20BSX11	Test Duration	3 Hrs.	Max. Marks	70	Semester	I
Course	LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Find the rank of the matrix $\begin{bmatrix} 1 & 2 & 3 \\ 3 & 4 & 5 \\ 4 & 5 & 6 \end{bmatrix}$	20BSX11.1	L1
2	Write the nature of the quadratic form $2x^2 + 2y^2 + 2z^2 + 2yz$	20HSX11.2	L1
3	Solve $(y^2 - 2xy)dx = (x^2 - 2xy)dy$	20HSX11.3	L2
4	Give the general solution of $\frac{d^2y}{dx^2} + \frac{dy}{dx} + y = 0$	20HSX11.4	L2
5	Write the properties of Jacobians	20HSX11.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Define the rank of the matrix and find the rank of the matrix A = $\begin{bmatrix} 2 & 1 & 3 & 5 \\ 4 & 2 & 1 & 3 \\ 8 & 4 & 7 & 13 \\ 8 & 4 & -3 & -1 \end{bmatrix}$ by reducing into Echelon form.	6M	20BSX11.1	L2
6 (b)	Find whether the following equations are consistent, if so solve them. $x + y + 2z = 4$; $2x - y + 3z = 9$; $3x - y - z = 2$	6M	20BSX11.1	L3
	OR			
7 (a)	Determine the rank of the matrix A = $\begin{bmatrix} 1 & 2 & 1 & 0 \\ -2 & 4 & 3 & 0 \\ 1 & 0 & 2 & -8 \end{bmatrix}$ by reducing to normal form.	6M	20BSX11.1	L3
7 (b)	Find the Eigen values and the corresponding Eigen Vectors of A = $\begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$	6M	20BSX11.1	L2
8 (a)	Diagonalize the matrix $\begin{bmatrix} 2 & 1 & -1 \\ 1 & 1 & -2 \\ -1 & -2 & 1 \end{bmatrix}$	6M	20HSX11.2	L2
8 (b)	Explain Cayley – Hamilton theorem. For the matrix 'A' find its inverse using Cayley – Hamilton.	6M	20HSX11.2	L2

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$$A \begin{vmatrix} 7 & 2 & 2 \\ 6 & 1 & 2 \\ 6 & 2 & -1 \end{vmatrix}$$

OR

Reduce the quadratic form

9	$Q \quad x_1^2 + 3x_2^2 + 3x_3^2 \quad 2x_2x_3$ into the canonical form and hence find its Nature, Rank, Index and Signature	12M	20HSX11.2	L2
10 (a)	Solve [illegible]	6M	20HSX11.2	L2
10 (b)	Find the orthogonal trajectories of the family of the cardioids $r = a(1-\cos\theta)$	6M	20HSX11.2	L2

OR

11 (a)	$Solve\,(1+y^2)dx = (\tan^{-1}y \quad x)dy$	6M	20HSX11.3	L2
11 (b)	In a certain chemical reaction the rate of conversion of a substance at time t is proportional to the quantity of the substance still untransformed at that instant. At the end of one hour 60 grams remain and at the end of four hours 21 grams. How many grams of the first substance were there initially?	6M	20HSX11.3	L3
12 (a)	Solve the differential equation $\frac{d^2y}{dx^2} \quad 3\frac{dy}{dx} + 2y = xe^{3x} + \sin 2x$	6M	20HSX11.4	L2
12 (b)	The voltage V and the current I at a distance x from the sending end of the transmission line satisfy the equations $\frac{dV}{dx} = RI, \quad \frac{dI}{dx} = GV$ where R and G are constants. If V = V0 at the sending end (x = 0) and V = 0 at receiving end (x = l). Show that $V = V_0\left\{\frac{\sinh n(l \quad x)}{\sinh nl}\right\}, when\ n^2 = RG$	6M	20HSX11.4	L3

OR

13 (a)	Solve [illegible]	6M	20HSX11.4	L2
13 (b)	Using method of variation of parameters solve [illegible]	6M	20HSX11.4	L3
14	Verify Rolle's theorem for $f(x) = (x-a)^m (x-b)^n$ where m, n are positive integers in [a, b]	12M	20HSX11.5	L2

OR

15	If $x = r\sin\theta\cos\phi$, $y = r\sin\theta\sin\phi$, $z = r\cos\theta$ then show that $\frac{J(x,y,z)}{J(r,\theta,\phi)} = r^2\sin\theta$	12M	20HSX11.5	L2

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Visakhapatnam

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Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : K.A. NAIDU Designation : Asst. Professor
Organization : VIGNAN'S IIT
Academic Year : 2022
Semester :
Curse Title : Basic Electrical Engineering

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

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7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good Satisfactory ✓

8. General Remarks

Signature

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : J. Uday Venkatesh Designation : Asst. professor
Organization : ANITS
Academic Year : 2022
Semester : IST
Curse Title : Basic Electrical Engg

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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Question Quality

Commendable Excellent Good Satisfactory

8. General Remarks

Signature

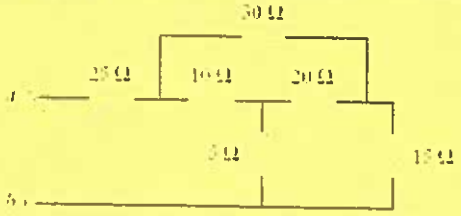
Semester End Regular/Supplementary Examination, April – 2022

Degree	B. Tech. (U. G.)	**Program**	ECE & EEE			**Academic Year**	2021 - 2022
Course Code	20ESX03	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	I
Course	**BASIC ELECTRICAL ENGINEERING**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Ohm's law	20ESX03.1	L1
2	What is the purpose of brush in DC machines?	20ESX03.2	L1
3	Transformer works on which principle?	20ESX03.3	L1
4	What is Distribution Factor K_D?	20ESX03.4	L1
5	List any three applications of AC servo motor.	20ESX03.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Derive the relationship for converting a 3-terminal delta-connected resistance into an equivalent star.	6M	20ESX03.1	L3
6 (b)	By using delta-star transformation for the following figure, obtain the equivalent resistance between terminals a and b. 	6M	20ESX03.1	L3
	OR			
7 (a)	Explain in detail about Kirchhoff's Current and Voltage Law.	6M	20ESX03.1	L2
7 (b)	Derive the average and rms values of the sinusoidal waveform.	6M	2pESX03.1	L3
8	Explain the Operation of 3 point starter with a neat sketch.	12M	20ESX03.2	L2
	OR			
9	Derive the EMF equation of a DC generator and also mention the main parts in a DC machine construction.	12M	20ESX03.2	L3
10 (a)	Draw the on-load phasor diagrams of practical transformer for unity, lagging and leading power factors.	6M	20ESX03.3	L2
10 (b)	Derive the EMF equation of a transformer.	6M	20ESX03.3	L3
	OR			
11	Explain open circuit and short circuit tests of transformer with neat circuit diagrams.	12M	20ESX03.3	L2
12	Explain the constructional details of an alternator with neat sketches	12M	20ESX03.4	L2
	OR			
13	Explain the principle of operation of 3-Φ induction motor	12M	20ESX03.4	L2
14	Identify the different types of single phase induction motors and explain them with diagrams	12M	20ESX03.5	L3
	OR			
15	Explain the working principle of AC servo motors with applications	12M	20ESX03.5	L2

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NSRIT (A)
Visakhapatnam

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : S. Naga Malik Raj Designation : Asst-Prof
Organization : VIITC(A)
Academic Year : 2021-2022
Semester : I
Curse Title : Programming for Problem solving using 'C'

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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Commendable Excellent ✓ Good Satisfactory

8. General Remarks

Signature

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : V. Annapoorna Designation : Assistant professor
Organization : ANITS
Academic Year : 2021-2022
Semester : I
Curse Title : programming for problem solving using C.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   ✓ Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   ✓ Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   ✓ Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | ✓ No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   ✓ Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   ✓ Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? good.

Commendable Excellent Good Satisfactory

8. General Remarks Good.

Signature

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

Preamble: This feedback form AC 23 is intended to receive feedback on the quality of questions to ensure that the intended learning outcomes in terms Knowledge, Understanding and Skill are assessed. Also this form helps us to improve the quality of the questions that appear in the assessment instrument.

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To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Sriramulu Designation : Asst professor
Organization : LIET
Academic Year : 2022
Semester : I
Curse Title : programming for problem solving using "C"

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good Satisfactory ✓

8. General Remarks

Signature

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : Sangeeta.P Designation Asst Prof. Gr-II
Organization : LIET
Academic Year : 2021-2022
Semester : I
Curse Title : Programming for problem solving using 'C'

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good ✓ Satisfactory

8. General Remarks good

Signature

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE ✓ | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : S. Omprakash Designation : Asst Prof.
Organization : Raghu Institute of Technology.
Academic Year : 2020-21
Semester : I
Curse Title : Programming for Problem Solving Using 'C'.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   ~~Yes~~ ✓ | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good Satisfactory

8. General Remarks

Excellent.

Signature

NSRIT

Semester End Regular/Supplementary Examination, April, 2022

Degree	B. Tech. (U. G.)	**Program**	Common to All			**Academic Year**	2021 - 2022
Course Code	20ESX02	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	I
Course	**PROGRAMMING FOR PROBLEM SOLVING USING 'C'**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	List the rules to frame identifiers in C	20ESX02.1	L1
2	Give a code snippet to demonstrate if-else-if ladder	20ESX02.2	L3
3	Present the syntax for declaring a 3 – d array and give an example	20ESX02.3	L2
4	Write down the valid operations in pointer arithmetic	20ESX02.4	L2
5	Give the code snippet to read data from a file	20ESX02.5	L3

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Write the algorithm and corresponding flowchart to find the sum of first n natural numbers	8M	20ESX02.1	L3
6 (b)	Demonstrate the input and output functions of C with two examples each	4M	20ESX02.1	L2
	OR			
7 (a)	Write a program that finds the area and perimeter of a square and circle	8M	20ESX02.1	L3
7 (b)	Discuss on the logical operators and their precedence in C	4M	20ESX02.1	L2
8 (a)	Differentiate between continue and break statements with appropriate examples	4M	20ESX02.2	L2
8 (b)	Write a program to get a number and find the sum of the digits in the number	8M	20ESX02.2	L3
	OR			
9 (a)	Write a program to get two numbers and an operator (+,-,*,/). Do appropriate operation between the two numbers based on the operator. Use switch case statement for the purpose	8M	20ESX02.2	L3
9 (b)	Discuss about 4 different types of storage classes	4M	20ESX02.2	L2
10 (a)	Write a program to find the number of occurrences of a character in a character array	4M	20ESX02.3	L3
10 (b)	Explain any four string functions with examples	8M	20ESX02.3	L2
	OR			
11 (a)	Write a program to find the column total of each column in a matrix	8M	20ESX02.3	L3
11 (b)	Demonstrate how user defined functions are declared and used	4M	20ESX02.3	L2
12 (a)	Explain array of pointers with suitable example	4M	20ESX02.4	L2
12 (b)	Demonstrate the concept of structures and pointers with example code	8M	20ESX02.4	L3
	OR			
13	Write a C program to demonstrate structures and union	12M	20ESX02.4	L3
14	List 6 different file handling functions and explain their purpose along with the syntax and example	12M	20ESX02.5	L2
	OR			
15 (a)	List any four preprocessor directives and state their purpose	4M	20ESX02.5	L2
15 (b)	Demonstrate how command line arguments are processed in a C program with an example code.	8M	20ESX02.5	L3

G. Kalyani

Controller of Examinations
NSRIT (A)
Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. I.C.N. Brahmaji Rao Designation : Assoc. Professor
Organization : RIT(A)
Academic Year : 2021-22
Semester : I
Curse Title : FCS

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

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6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

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7. In general, how do you rate the quality and standard of questions? 4

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : B. Ajay Ram Designation Asst Prof
Organization : Lendi Institute of Engg & Tech
Academic Year : 2021-2022
Semester : I
Curse Title : Fundamentals of Computer Science

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good Satisfactory

8. General Remarks

Signature

NSRIT

Semester End Regular/Supplementary Examination, April - 2022

Degree	B. Tech. (U. G.)	**Program**	CSE/CSM/CSD			**Academic Year**	2020 - 2021
Course Code	20CS101	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	I
Course	**FUNDAMENTALS OF COMPUTER SCIENCE**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Explain the need of secondary storage	20CS101.1	L1
2	What are the characteristics of an algorithm	20CS101.2	L2
3	Illustrate Ring topology in a network	20CS101.3	L1
4	List the disadvantages of file oriented approach	20CS101.4	L1
5	Define Intelligent systems	20CS101.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 10)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain a hardware components of a computer system with diagram	6M	20CS101.1	L2
6 (b)	Explain the input and output devices connected in computer system	6M	20CS101.1	L2
	OR			
7 (a)	Explain the different types of memory in computer system	8M	20CS101.1	L2
7 (b)	Compare hardware and software	4M	20CS101.1	L2
8 (a)	Define flowchart and Draw a flowchart for printing N integers	4M	20CS101.2	L1
8 (b)	Explain one-zero game	8M	20CS101.2	L2
	OR			
9 (a)	Define flowchart and explain different symbols used for constructing flowchart.	6M	20CS101.2	L1
9 (b)	Explain structured programming concepts	6M	20CS101.2	L1
10 (a)	Explain network topologies with neat illustrations	6M	20CS101.3	L1
10 (b)	Outline the process management	6M	20CS101.3	L1
	OR			
11 (a)	Describe any three operating systems with its features	8M	20CS101.3	L2
11 (b)	Explain the open system inter connection model	4M	20CS101.3	L1
12 (a)	Explain the applications of database system	8M	20CS101.4	L2
12 (b)	Summarize the queries used to retrieve the data	4M	20CS101.4	L1
	OR			
13 (a)	Compare the database models: Network, relational, and object oriented	8M	20CS101.4	L1
13 (b)	List the advantages and disadvantages of Database approach	4M	20CS101.4	L2
14 (a)	Write the current trends in AI	4M	20CS101.5	L1
14 (b)	Describe the machine learning applications	8M	20CS101.5	L2
	OR			
15 (a)	Give the foundations of AI	6M	20CS101.5	L1
15 (b)	Explain different types of a machine learning models	6M	20CS101.5	L2

G. Kalyani

Controller of Examinations
NSRIT (A)
Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : B.G.G.Krishnam Raju Designation : Asst. Prof.
Organization : Lending engg college
Academic Year : 2021-22
Semester : I
Curse Title : Applied Chemistry

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

BGGKRaju

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS&H

Name of the Reviewer : K. Satyam Naidu Designation Asst. Professor
Organization : Raghu Institute of Technology.
Academic Year : 2021-22
Semester : I
Curse Title : Applied Chemistry & Engineering Chemistry

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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K.S.N

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Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. T. Satyanarayana Designation :
Organization : VIIT
Academic Year : 2021-22
Semester : I/I
Curse Title : AC & EC

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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7. In general, how do you rate the quality and standard of questions?

Question Quality

Commendable Excellent ✓ Good Satisfactory

8. General Remarks

Kindly arrange water supply to all examiners as early as possible

Signature

Semester End Regular/Supplementary Examination, April, 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20BSX23	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	I
Course	APPLIED CHEMISTRY						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Write the functionality of a polymer.	20BSX23.1	L1
2	Define Electrolytic conductors.	20BSX23.2	L1
3	Write Schrödinger's equation.	20BSX23.3	L2
4	Write the finger print range of IR Spectroscopy.	20BSX23.4	L1
5	What is molecular modeling?	20BSX23.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain in stereo specific polymerization of PVC in detail with mechanism.	6M	20BSX23.1	L2
6 (b)	Write a detailed account on conducting polymers with examples.	6M	20BSX23.1	L2
	OR			
7 (a)	Write the mechanism of Condensation polymerization with an example.	6M	20BSX23.1	L2
7 (b)	Describe the importance of Biodegradable polymers? Give the preparation of any two Biodegradable polymers.	6M	20BSX23.1	L2
8 (a)	Differentiate between Primary and Secondary reference Electrodes. Explain construction of Standard Hydrogen Electrode.	6M	20BSX23.2	L2
8 (b)	Derive the Nernst equation for a single electrode potential.	6M	20BSX23.2	L2
	OR			
9 (a)	Explain construction, working and applications of H_2-O_2 fuel cell.	6M	20BSX23.2	L2
9 (b)	Define conductometric titrations? Discuss conductometric titrations of Mixture of acids (HCl + CH_3COOH) Vs strong base and explain the nature of the graphs between conductance and volume of titrant used.	6M	20BSX23.2	L2
10 (a)	Explain the energy level diagrams of O_2 and NO molecule. Explain their magnetic nature and bond order.	7M	20BSX23.3	L2
10 (b)	Give the postulates of plank's quantum theory.	5M	20BSX23.3	L2
	OR			
11 (a)	Explain the crystal field splitting and properties of Octahedral complex $[Fe(CO)_6]^{+3}$.	5M	20BSX23.3	L2
11 (b)	Discuss types of conductors. Explain effect of doping on conductance.	7M	20BSX23.3	L2
12 (a)	Write a short note on Nuclear magnetic resonance.	5M	20BSX23.4	L2
12 (b)	What are the fundamental principles involved in instrumental and chemical measurements?	7M	20BSX23.4	L2
	OR			
13 (a)	How to separate the mixture of gases by using Gas Chromatography.	6M	20BSX23.4	L2
13 (b)	Discuss the potentiometric methods help to determine the endpoint in acid-base titration.	6M	20BSX23.4	L2
14 (a)	Write in detail about supra molecules with any two examples.	6M	20BSX23.5	L2
14 (b)	What is basic lock and key principle?	6M	20BSX23.5	L1
	OR			
15 (a)	Explain in detail about Quantum Light Emitting Diodes (QLEDs).	6M	20BSX23.5	L2
15 (b)	Discuss about of Molecular modeling and docking studies in computational chemistry.	6M	20BSX23.5	L2

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NSRIT (A)
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Semester End Regular Examination, April, 2022

Degree	B. Tech. (U. G.)	**Program**	CE/ME			**Academic Year**	2021 - 2022
Course Code	20BSX21	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	I
Course	**ENGINEERING CHEMISTRY**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Give units of hardness of water.	20BSX21.1	L1
2	Define paint.	20BSX21.2	L1
3	Define calorific value, HCV and LCV.	20BSX21.3	L1
4	Thermoplastics can be recycled but thermo-setting plastics cannot be recycled. Justify.	20BSX21.4	L2
5	List any two applications of colloids and nanomaterials.	20BSX21.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Illustrate the softening method of water by using Zeolite process, with neat diagram.	6M	20BSX21.1	L2
6 (b)	Explain the principle and procedure of Reverse osmosis. List the merits and applications.	6M	20BSX21.1	L2
	OR			
7 (a)	Explain estimation of hardness of water by EDTA method.	6M	20BSX21.1	L2
7 (b)	Explain in detail about Electro Dialysis?	6M	20BSX21.1	L2
8 (a)	Demonstrate the construction and working of Calomel Electrode. Write its advantages and limitations.	6M	20BSX21.2	L2
8 (b)	Define Secondary Battery. Describe the construction and construction and working principle of Li ion battery.	6M	20BSX21.2	L2
	OR			
9 (a)	Define Cathodic protection. How to control the corrosion by using cathodic protection methods?	6M	20BSX21.2	L2
9 (b)	Illustrate about Electro less plating (Nickel plating).	6M	20BSX21.2	L2
10 (a)	Discuss the synthesis of petrol by Fisher Troposch method.	6M	20BSX21.3	L2
10 (b)	Explain the analysis of flue gas by Orsat apparatus.	6M	20BSX21.3	L2
	OR			
11 (a)	Define gross and net calorific value of a fuel. Calculate the gross and net calorific value of coal having the following compositions carbon = 85%, hydrogen = 8%, sulphur = 1%, nitrogen = 2%, ash = 4%, latent heat of steam = 587 cal/g.	6M	20BSX21.3	L2
11 (b)	Explain the proximate analysis of a coal sample, and its significance.	6M	20BSX21.3	L2
12 (a)	Explain preparation properties and applications of Buna-S and Bakelite.	6M	20BSX21.4	L2
12 (b)	Explain mechanism of setting and Hardening of Cement.	6M	20BSX21.4	L2
	OR			
13 (a)	Discuss the factors effecting Refractory materials and its application.	6M	20BSX21.4	L2
13 (b)	Describe about the fiber and structural reinforced composites, enlist their engineering applications.	6M	20BSX21.4	L2

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14 (a)	Give detailed account of SEM technique.	7M	20BSX21.5	L2
14 (b)	How do you characterize the surface of a substance by X-ray diffraction method?	5M	20BSX21.5	L2
	OR			
15 (a)	Discuss the synthesis of nanomaterials by chemical method. Enumerate the applications of nanomaterials in catalysis.	5M	20BSX21.5	L2
15 (b)	Explain characterization of surface of a substance by TEM.	7M	20BSX21.5	L2

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : P. Kameswara Rao Designation : Asst. Prof
Organization : Lendi Inst. of Engg. & Tech
Academic Year : 2021-22
Semester : I-I
Curse Title : Engg. Drawing

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 5

Semester End Regular/Supplementary Examination, April - 2022

Degree	B. Tech. (U. G.)	**Program**	Common to CE/ME			**Academic Year**	2021 - 2022
Course Code	20ESX01	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	I
Course	**ENGINEERING DRAWING**						

Part A (Short Answer Questions 2 x 5 = 10 Marks)

No.	Questions (1 through 2)	Learning Outcome (s)	DoK
1	Draw the projections of the following points on a common reference line "XY". Maintaining suitable distance between them and also mention the quadrant they are in. (i)A point "A" 30mm above H.P and 40mm in front of V.P. (ii) A point "B" 20mm below H.P. and 40mm behind H.P. (iii) A point "D" 15mm above H.P. and 40mm behind V.P. (iv) A point "C" lies on H.P. and V.P.	20ESX01.2	L1
2	A point P is 15mm above HP and 20mm in front of VP another point Q is 25mm behind VP and 40mm below hp draw p and q projections so that distance between end the projector is 90mm.Assume the position of points in suitable quadrants and draw the straight line joining a) the top views b) the front views.	20ESX01.4	L3

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 10)	Learning Outcome (s)	DoK
3(a)	Construct an ellipse, when the distance of focus from its directrix is 60mm & eccentricity =2/3 also draw a normal and tangent to the curve at a point 50mm from the directrix.	20ESX01.1	L2
3(b)	Construct a scale of 1:40 to read meters and decimeters and long enough to measure up to 6 meters. Mark a distance of 4.7 meters on it.	20ESX01.1	L3
	OR		
4 (a)	Construct a cycloid for one complete revolution of a circle having a 50 mm diameter. Draw a tangent and a normal to the curve at a point that is 35 mm above the base line.	20ESX01.1	L3
4(b)	Draw a Vernier scale of RF=1/25 to read centimeters up to 4metres and on it, shown lengths representing 2.39 m and 0.91 m	20ESX01.1	L2
5 (a)	The line AB of 40mm length is inclined at 30° to the H.P. and parallel to V.P. The end point A of the line is 15mm above H.P. and 20mm in front of V.P. Draw the Projections of lines?	20ESX01.2	L3
5 (b)	A line RS 40mm long is parallel to both the planes. It is 20 mm above the HP and 15mm in front of the VP. Draw the projections of the line?	20ESX01.2	L2
	OR		
6 (a)	The line AB is 25mm long is perpendicular to V.P. and parallel to H.P. The end points A and B of the lines are 15mm and 40mm away from V.P. The line is 20mm above H.P. draw the projections of line?	20ESX01.2	L3
6 (b)	A line "PQ" 90mm long is in H.P. and makes an angle 30° with V.P and 40° with HP. Its end point "P" is 25mm in front of V.P. Draw the projections.	20ESX01.2	L2

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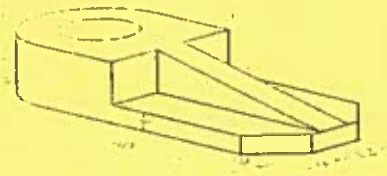
7 (a)	Draw the projections of regular hexagon of 25mm side having one of its sides in the H.P and inclined at 60⁰ to the H.P	20ESX01.3	L2
7 (b)	Draw the projections of a circle of 75 mm diameter having the end A of the diameter AB in the HP, the end B in the VP, and the surface inclined at 30⁰ to the HP and at 60⁰ to the VP	20ESX01.3	L3
	OR		
8 (a)	A square ABCD of 50mm side has its corner A in the H.P its diagonal AC inclined at 30⁰ to the H.P Draw its projections?	20ESX01.3	L2
8 (b)	Draw the projections of a pentagonal sheet of 26mm side, having its surface inclined at 30⁰ to VP. Its one side is parallel to VP and inclined at 45⁰ to HP	20ESX01.3	L3
9 (a)	A hexagonal prism with side of base 25mm and 50mm long is resting on a corner of its base on HP Draw the projections of the prism when its axis is making 30° with HP and parallel to V.P	20ESX01.4	L2
9 (b)	Draw the projections of a cylinder 75 mm diameter and 100mm long. Lying on the ground with its axis inclined at 30⁰ to the VP and 45⁰nclned to HP	20ESX01.4	L3
	OR		
10 (a)	Draw the projections of a cone, base 75mm diameter and axis 100mm long, lying on the ground on one of its generators with the axis parallel to the VP	20ESX01.4	L2
10 (b)	A square prism of side of base 30 mm and axis 55 mm long lies on one of its generator in the HP and its faces equally inclined to the HP. Draw its projections when its axis is inclined at an angle of 60⁰ to the VP?	20ESX01.4	L3
11	Draw the front view, top view and side view from the isometric view. All dimensions are in mm. 	20ESX01.5	L4
	OR		
12	Draw the isometric view of Fig.	20ESX01.5	L4

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To develop the students into outstanding professionals through innovative Teaching-Learning process.
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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Drs. Deepthi Designation : Asst Professor.
Organization : Lendi institute of engineering and technology.
Academic Year : 21-22.
Semester : I
Curse Title : Applied Physics.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 3. (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Good equality

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H ✓

Name of the Reviewer : R. Hanumantha Rao Designation : Assoc. Prof
Organization : Vignan's IIT
Academic Year : 2020-21
Semester : I
Curse Title : Applied Physics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?
   ✓ Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)
2. Are the questions being very clear in easily understandable language without any sort of ambiguity?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?
   ✓ Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)
5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?
   ✓ Yes | No. If yes, please rate it on a five-point scale 2 (5: High to 1: Low)
6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
7. In general, how do you rate the quality and standard of questions? Numericals to be included.

# of Questions related to Analyzing & Applying are low in Q.paper.

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : K. Kirankumar Designation : Asst. Professor
Organization : Raghu Institute of Technology
Academic Year : 2021-2022
Semester : I-I
Curse Title : Applied physics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions? – 5

NSRIT

Semester End Regular/Supplementary Examination, April, 2022

Degree	B. Tech. (U. G.)	**Program**	CSE, CSM, CSD & EEE		**Academic Year**	2021 - 2022	
Course Code	20BSX33	**Test Duration**	3 Hrs.	Max. Marks 70	**Semester**	I	
Course	**APPLIED PHYSICS**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is double refraction?	20BSX33.1	L1
2	List the parts of an optical fibre.	20BSX33.2	L1
3	Define magnetic susceptibility and magnetic permeability.	20BSX33.3	L1
4	Recall the physical significance of a wave function.	20BSX33.4	L2
5	What are P - Type semi conductors?	20BSX33.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	Explain the formation of Newton's rings with suitable theory.	12M	20BSX33.1	L2
	OR			
7	Describe the construction and working of Nicol's prism with neat diagram.	12M	20BSX33.1	L2
8 (a)	Describe the construction and working of Ruby laser with diagram.	10M	20BSX33.2	L2
8 (b)	List the types of fibres.	2M	20BSX33.2	L2
	OR			
9 (a)	What is numerical aperture? Derive an expression for numerical aperture of an optical fibre.	8M	20BSX33.2	L2
9 (b)	Explain the characteristics of laser.	4M	20BSX33.2	L2
10 (a)	Discuss the characteristics of diamagnetic, paramagnetic and ferromagnetic substances with examples.	9M	20BSX33.3	L2
10 (b)	What is internal field in a dielectric material?	3M	20BSX33.3	L2
	OR			
11 (a)	Discuss various types of polarizations in dielectrics.	9M	20BSX33.3	L2
11 (b)	List any three applications of dielectrics.	3M	20BSX33.3	L2
12 (a)	With the help of a time independent Schrodinger wave equation for a particle in one dimensional box show that the energies are quantized.	8M	20BSX33.4	L2
12 (b)	Discuss the merits and demerits of classical free electron theory.	4M	20BSX33.4	L2
	OR			
13 (a)	Explain Fermi-Dirac distribution function and discuss its variation with temperature.	8M	20BSX33.4	L2
13 (b)	What are matter waves? Derive an expression for the wavelength of matter waves.	4M	20BSX33.4	L2
14	Show that the Kronig-Penney model leads to energy band structure in solids.	12M	20BSX33.5	L2
	OR			
15 (a)	On the basis of band theory, explain how materials are divided into conductors, semiconductors and insulators	8M	20BSX33.5	L2
15 (b)	Discuss any two applications of Hall effect.	4M	20BSX33.5	L2

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME ✓ | BS &H

Name of the Reviewer : A. Subrahmanyam Designation : Asst. Prof
Organization : ANITS
Academic Year : 2021–2022
Semester : III
Curse Title : Mfg. processes.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study? How can we your CO's

   Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes ✓ | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes ✓ | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No ✓. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes ✓ | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	**Program**	MECH			**Academic Year**	2021 - 2022
Course Code	20ME305	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	MANUFACTURING PROCESS						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	List any four advantages of casting.	20ME304.1	L1
2	Illustrate the steel making processes	20ME304.2	L2
3	List any four differences between the welding and soldering	20ME304.3	L2
4	Define forge welding	20ME304.4	L1
5	Illustrate thread rolling process.	20ME304.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain steps involved in a casting process with a neat sketch.	6M	20ME304.1	L2
6 (b)	Explain the various types of pattern and also explain any three patterns with a neat sketch.	6M	20ME304.1	L1
	OR			
7 (a)	Explain injection molding and Blow molding.	6M	20ME304.1	L2
7 (b)	What are the steps involved in the preparation of a Casting? Explain briefly the die casting process.	6M	20ME304.1	L1
8 (a)	Explain the construction and working principle of Cupola Furnace with a neat sketch.	6M	20ME304.2	L2
8 (b)	How the upsetting is differ from fullering in forging process?	6M	20ME304.2	L2
	OR			
9 (a)	How do you compare forged components with cast components?	6M	20ME304.2	L2
9 (b)	Explain the two types of crucible furnaces with diagrams	6M	20ME304.2	L2
10 (a)	Explain the advantages and applications of oxy-acetylene welding.	7M	20ME304.3	L2
10 (b)	What are the parameters that control the weld quality in manual metal-arc welding?	5M	20ME304.3	L2
	OR			
11 (a)	Explain the TIG systems of arc-welding give the applications of each.	6M	20ME304.3	L2
11 (b)	Explain the MIG systems of arc-welding give the applications of each.	6M	20ME304.3	L2
12 (a)	Describe the electro slag welding process	5M	20ME304.4	L2
12 (b)	Describe the electron beam welding process	7M	20ME304.4	L2
	OR			

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NSRIT (A)
Visakhapatnam

13 (a)	What applications would require diffusion welding?	6M	20ME304.4	L2
13 (b)	What is the term HAZ in welding process explain briefly?	6M	20ME304.4	L2
14 (a)	Explain hot rolling operations through (i) two high (ii) three high and (iii) four high rolling mill	7M	20ME304.5	L1
14 (b)	Write a note on thread rolling process.	5M	20ME304.5	L2
	OR			
15 (a)	Enumerate the typical applications of cold working	4M	20ME304.5	L1
15 (b)	Explain the various methods available for blow moulding of thermoplastics giving their relative applications	8M	20ME304.5	L2

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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE ✓ | ME | BS &H

Name of the Reviewer : B. Ram Vara Prasad Designation : Assistant. Professor
Organization : LIET
Academic Year : 2021-22
Semester : III
Curse Title : Power Generation & Transmission

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Moderate

B. Prasad

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	EEE			Academic Year	2021 - 2022
Course Code	20EE305	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	POWER GENERATION AND TRANSMISSION						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define a) Economizer b) Preheater	20EE305.1	L2
2	List the types of tariffs to calculate energy rate.	20EE305.2	L1
3	List any four types of conductors used in power systems	20EE305.3	L2
4	Define a) Skin Effect b) Corona Loss	20EE305.4	L1
5	Write down the expression for insulation resistance of a single core cable.	20EE305.5	L2

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	With neat sketch, explain the construction and operation of different components of a hydroelectric power plant.	12M	20EE305.1	L2
	OR			
7 (a)	What are the main components of a nuclear power station? Explain the functions of each component in detail.	9M	20EE305.1	L1
7 (b)	What are the factors to be considered for selection of site for a thermal power station?	3M	20EE305.1	L1
8	Discussion the following: (i) Connected load, (ii) Demand factor, (iii) Load factor, (iv) Plant use factor, (v) Base and peak load plants, (vi) Spinning reserve.	12M	20EE305.2	L1
	OR			
9 (a)	An electrical supply company having a maximum load of 50 MW generates 18x107 units per annum and the supply consumers have an aggregate demand of 75 MW. The annual expenses including capital charges are: • For Fuel = Rs. 90 lakhs. • Fixed charges concerning generation = Rs. 28 lakhs; • Fixed charges concerning transmission and distribution = Rs. 32 lakhs; Assuming 90% of the fuel cost is essential to running charges and the loss in transmission and distribution as 15% of kWh generated. Deduce a two-part tariff to find the actual cost of supply to the consumers.	10M	20EE305.2	L3
9 (b)	What are desirable characteristics of a tariff?	2M	20EE305.2	L1
10 (a)	Derive an expression for inductance of a 3-phase transmission line with unsymmetrical spacing.	8M	20EE305.3	L3
10 (b)	A conductor is composed of seven identical copper strands each having a radius r. Find the self-GMD of the conductor.	4M	20EE305.3	L3
	OR			
11 (a)	Derive an expression for capacitance of a 3-phase line when the conductors are symmetrically placed.	8M	20EE305.3	L3
11 (b)	Calculate the capacitance of a 100 km long 3-phase, 50 Hz overhead transmission line consisting of 3 conductors each of diameter 2 cm and spaced 2.5 m at the corners of an equilateral triangle.	4M	20EE305.3	L3
12	The A, B, C, D constants of a 3-phase transmission line are A=D=(0.936+j0.016), B=(33.5+j1.138) Ω, C=(-0.928+j901.223)x10^{-6} S. The load at the receiving end is 40 MW at 220 kV with power factor at 0.86 lagging. Find the magnitude of the sending end voltage, current,	12M	20EE305.4	L3

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	power, line efficiency and the voltage regulation. Assume the magnitude of sending end voltage remains constant.			
	OR			
13 (a)	Explain the classification of lines based on their length of transmission.	6M	20EE305.4	L3
13 (b)	Explain the surge impedance loading with respect to an overhead transmission line.	6M	20EE305.4	L3
14	Calculate sag and tension of a conductor when, (i) supports are at equal levels and (ii) supports are at unequal levels. Analyze with and without the effect of ice loading and wind.	12M	20EE305.5	L3
	OR			
15 (a)	An insulator string for 66 kV line has 4 discs. The shunt capacitance between each joint and metal work is 10 % of the capacitance of each disc. Find the voltage across the different discs and string efficiency.	9M	20EE305.5	L3
15 (b)	A 3-phase overhead transmission line is being supported by three discs insulator. The potential across top unit (i.e. near the tower) and the middle unit are 8kV and 11kV respectively. Calculate the ratio of capacitance between pin and earth to the self-capacitance of each unit.	3M	20EE305.5	L3

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : P. Sumanjali Designation : Asst. Prof.
Organization : ANRS
Academic Year : 2021 – 22
Semester : II
Curse Title : Fluid Mechanics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 3

P. Sumanjali

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	**Program**	Civil Engineering			**Academic Year**	2021 - 2022
Course Code	20CE305	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Fluid Mechanics**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define mass density and weight density.	20CE305.1	L1
2	Classify the velocity potential function and stream function.	20CE305.2	L2
3	What are Newtonian and Non-Newtonian fluids?	20CE305.3	L1
4	Define draft tube.	20CE305.4	L1
5	Write four methods to control boundary layer.	20CE305.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	A Rectangular plane surface 1 m wide and 3 m deep lies in water in such a way that its plane surface makes an angle of 300 with the free surface of water. Determine the total pressure and the depth of centre of pressure when upper edge of the plate is 2 m below the free surface.	6M	20CE305.1	L3
6 (b)	Explain Simple Manometers.	6M	20CE305.1	L2
	OR			
7 (a)	The left leg of a U-tube mercury manometer is connected to pipe-line conveying water, the level of mercury in the leg being 0.8 m below the center of pipe line, and the right leg is open to atmosphere. The level of mercury in the right leg is 0.65 m above that in the left leg and the space above mercury in the right leg contains Benzene (Specific gravity 0.87) to a height of 0.4 m. Find the pressure in the pipe?	6M	20CE305.1	L3
7 (b)	Develop an equation for centre of pressure for an inclined plane surface submerged in a liquid.	6M	20CE305.1	L2
8 (a)	The velocity components in a two Dimensional flow field for an incompressible fluid are as follows, $u = y^3/3 + 2x - x^2y$; $v = xy^2 - 2y - x^3/3$. Obtain Stream function and velocity potential function.	6M	20CE305.2	L3
8 (b)	What is the Principle involved in the functioning of Orifice meter?	6M	20CE305.2	L2
	OR			
9 (a)	Define the equation of Continuity. And obtain an expression for continuity equation for 3-D flow.	6M	20CE305.2	L3
9 (b)	Explain various types of fluid flows.	6M	20CE305.2	L2
10 (a)	Explain about pipes in parallel connection.	6M	20CE305.3	L2
10 (b)	Derive Darcy-Weisbach equation.	6M	20CE305.3	L2
	OR			
11 (a)	Explain briefly about different types of losses in pipe flow.	6M	20CE305.3	L2
11 (b)	Derive the expression for the velocity distribution for the flow of fluid between the parallel plates.	6M	20CE305.3	L2
12 (a)	What are the performance characteristics of a turbine?	6M	20CE305.4	L2
12 (b)	Explain geometric similarity.	6M	20CE305.4	L2

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Visakhapatnam

	OR			
13	Explain in detail about Francis turbine with a neat diagram.	12M	20CE305.4	L2
14	Explain the characteristics of Laminar and Turbulent boundary layer over a thin flat plate with a neat figure.	12M	20CE305.5	L2
	OR			
15 (a)	Discuss characteristics of laminar and turbulent boundary layer.	6M	20CE305.5	L2
15 (b)	Write about the development of lift in immersed bodies.	6M	20CE305.5	L2

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE ✓ | EEE | ME | BS &H

Name of the Reviewer : S. RAVI KUMAR Designation : Asst. Prof
Organization : VIIT(A)
Academic Year : 2021-22
Semester : III
Curse Title : Digital system design

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes ✓ | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes ✓ | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes ✓ | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes ✓ | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes ✓ | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes ✓ | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 1

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : Suryanarayana Chippada Designation:Sr. Analog Layout Engineer
Organization :Insemi technology services pvt. Ltd.
Academic Year : 2021-22
Semester : III SEM
Curse Title : Digital System Design

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale ___5_____ (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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   Yes | No. If yes, please rate it on a five-point scale _____5_____ (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale _____5_____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

   Commendable Excellent Good Satisfactory

8. General Remarks

Signature
CH suryanarayana

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer : Suryanarayana Chippada Designation :Sr. Analog Layout Engineer
Organization :Insemi technology services pvt. Ltd.
Academic Year :
Semester :
Curse Title :

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale _____5_____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good Satisfactory

8. General Remarks

Signature
CH suryanarayana

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : S. Aruna Kumari Designation : Assistant professor
Organization : RIT (A)
Academic Year : 2020-2022 (II)
Semester : I
Curse Title : Digital System Design

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? → 5

Aruna

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20EC305	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	**Digital System Design**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Convert: $(FABC)_{16} = (\ )_8$	20EC305.1	L1
2	Define pair quad and octet in K-Maps and give examples	20EC305.2	L1
3	What are PLAs and PALs?	20EC305.3	L1
4	State the function table of T-Flip-Flop	20EC305.4	L1
5	Draw VHDL design flow	20EC305.5	L2

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Convert the following i) $(53.625)_{10}$ to $(?)_2$ ii) $(3FD)_{16}$ to $(?)_2$ iii) $(A69.8)_{16}$ to $(?)_{10}$	6M	20EC305.1	L2
6 (b)	Show that the dual of the exclusive OR is also its compliment	6M	20EC305.1	L2
	OR			
7 (a)	(i) Convert the following binary 1010011 into gray code (ii)Convert the following gray code 101011 into its equivalent binary	6M	20EC305.1	L2
7 (b)	(i) What are 2's complement and 9's complement of a numbers? Give examples (ii) Subtract the following using 1's and 2's complement $(101)_2 - (10110)_2$	6M	20EC305.1	L2
8 (a)	(i) Simplify the following Boolean function, using a four variable Karnaugh map method and implement the simplified function using NAND gates $F(A,B,C,D) = \sum m(0,2,4,5,6,7,8,10,13,15)$	6M	20EC305.2	L2
8 (b)	Solve the given expression using consensus theorem A'B'+AC+BC'+B'C+AB	6M	20EC305.2	L2
	OR			
9 (a)	Obtain the simplified expression in POS (product of sums) of $F(W,X,Y,Z) = M(1,2,4,7,12,14,15)$ using K-maps	6M	20EC305.2	L2
9 (b)	Obtain the simplified expression in product of sums. (i) $F(A,B,C,D) = \pi(0,1,2,3,4,10,11)$ (ii) $F(A,B,C,D) = \pi(1,3,5,7,13,15)$	6M	20EC305.2	L2
10 (a)	Organize the procedure for multiplexers and de-multiplexers and draw the logic diagram of a 4-to-1 line multiplexer with logic gates	6M	20EC305.3	L3
10 (b)	Model a circuit for 2-bit magnitude comparator using gates	6M	20EC305.3	L3
	OR			
11 (a)	Design odd parity generator for 3-bit using a decoder	6M	20EC305.3	L3
11 (b)	Construct the functions and applications of PLAs in memory addressing and implement the following two Boolean functions with a PLA: F1 (A, B, C) = Σ (0, 1, 3, 5) and F2 (A, B, C) = Σ (1, 2, 4, 7)	6M	20EC305.3	L3

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12 (a)	Explain the working of JK Flip Flop	6M	20EC305.4	L2
12 (b)	Demonstrate the conversion of an SR Flip-Flop into D Flip-Flop	6M	20EC305.4	L2
	OR			
13 (a)	Relate and explain Johnson counter	6M	20EC305.4	L2
13 (b)	Illustrate the shift Right and Left with examples	6M	20EC305.4	L2
14 (a)	Inference the VHDL code for the following (i) 3 bit up Counter (ii) Contrast the architecture body? Write the syntax for architecture body	6M	20EC305.5	L4
14 (b)	Analyze overloading? Explain overloading in VHDL with suitable example	6M	20EC305.5	L4
	OR			
15 (a)	Discover the dataflow design style of VHDL programming with suitable example	6M	20EC305.5	L4
15 (b)	Contrast in detail about various data types and operators used in VHDL	6M	20EC305.5	L4

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Controller of Examinations
NSRIT (A)
Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. B. Nageswara Rao Designation Associative
Organization : LIET
Academic Year : 2021-22
Semester : III
Curse Title : MVET

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Good

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr K. Ramesh Designation : Professor
Organization : LIET
Academic Year : 2022
Semester : III
Curse Title : Complex Variables & Transforms, Mathematical foundations for Computer Science

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?
   ✓
   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
2. Are the questions being very clear in easily understandable language without any sort of ambiguity?
   ✓
   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?
   Yes | ~~No~~. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)
4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?
   ~~Yes~~ | ✓ No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)
5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?
   ✓
   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
7. In general, how do you rate the quality and standard of questions? 5

Dr K. Ramesh

NSRIT

Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20BSX14	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	Complex Variable & Transforms						

Part A (Short Answers Questions 5 X 2 =10 Marks)

No	Questions (1 through 5)	Learning Outcome(s)	DoK
1	Prove that u, v are harmonic functions if f(z) =u+iv is analytic function.	20BSX14.1	L1
2	Define Residue of a complex function.	20BSX14.2	L1
3	Find bn of the Fourier series to represent the function $f(x) = \lvert\sin x\rvert, -\pi < x < \pi$	20BSX14.3	L3
4	Find L { }	20BSX14.4	L2
5	Express as Fourier sine and cosine transform of f(x) $= \frac{e^{-ax}}{x}$	20BSX14.5	L2

Part B (Long Answers Questions 5 X 12 =60 Marks)

No	Questions (1 through 5)	Marks	Learning Outcome(s)	DoK
6(a)	Find the analytic function, whose real part is $\frac{\sin 2x}{\cosh 2y - \cos 2x}$	6M	20BSX14.1	L3
6(b)	Evaluate $\int_{1-i}^{2+i}(2x+1+iy)dz$ along the straight line joining (1, -i) and (2, i)	6M	20BSX14.1	L2
	OR			
7(a)	Prove that $f(z) = \begin{cases} \frac{xy^2(x+iy)}{x^2+y^4}, z \neq 0 \\ 0, z = 0 \end{cases}$ is not analytic at z = 0, although CR equations are satisfied at the origin.	6M	20BSX14.1	L2
7(b)	Using Cauchy's Integral formula, evaluate $\int_C \frac{z^2 - z + 1}{z - 1}dz$, where C is $\lvert z\rvert = \frac{1}{2}$.	6M	20BSX14.1	L3
8(a)	Obtain the Taylor's series of $f(z) = \frac{2z^3 + 1}{z^2 + z}$ valid about the point z = i.	6M	20BSX14.2	L2
8(b)	Evaluate $\int_C \frac{z-3}{z^2+2z+5}dz$, where C is $\lvert z + 1 + i\rvert = 2$.	6M	20BSX14.2	L3
	OR			
9(a)	Explain various types of singular points and find the nature of singularity of the function $f(z) = \sin\frac{1}{1-z}$	6M	20BSX14.2	L2

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9(b)	By Cauchy's residue theorem, evaluate $\int_C \frac{dz}{(z^2+4)^2}$, where C is $\lvert z-i\rvert = 2$.	6M	20BSX14.2	L3
10(a)	Find cosine series for $f(x) = (\pi - x)^2$ in $[0,\pi]$.	6M	20BSX14.3	L3
10(b)	Find the Fourier series expansion for f(x). if $f(x) = \begin{cases} 2, & if\ -2 \le x \le 0 \\ x, & if\ 0 < x < 2 \end{cases}$	6M	20BSX14.3	L3
	OR			
11(a)	Expand f(x) = $\begin{cases} 1, 0 < x < \pi \\ 0, \pi < x < 2\pi \end{cases}$ as Fourier series	6M	20BSX14.3	L3
11(b)	Find half range sine series for $f(x) = x + x^2$ in $[0,1]$.	6M	20BSX14.3	L3
12	Find (i) L{ t^2+1 } (ii) $\mathcal{L}^{-1}\{\frac{1}{s^2+1}\}$	12M	20BSX14.4	L2
	OR			
13(a)	If $f(t) = \begin{cases} 1, 0 < t < 1 \\ -1, 1 < t < 2 \end{cases}$ is a periodic function with period 2. Then find its Laplace transform.	6M	20BSX14.4	L3
13(b)	Solve $y'' + y = \sin 3t, y(0) = y'(0) = 0$	6M	20BSX14.4	L3
14(a)	Find the Fourier sine and cosine transform of $f(x) = \frac{e^{-2x}}{x}$ and deduce that $\int_0^\infty \frac{e^{-2x} - e^{-3x}}{x} \sin sx = \tan^{-1}\left(\frac{s}{2}\right) - \tan^{-1}\left(\frac{s}{3}\right)$.	6M	20BSX14.5	L3
14(b)	Find the Fourier transform of $f(x) = \begin{cases} a^2 - x^2, & \text{if } \lvert x\rvert < a \\ 0, & \text{if } \lvert x\rvert > a \end{cases}$, $a > 0$. Hence Show that $\int_0^\infty \frac{\sin x - x\cos x}{x^3} dx = \frac{\pi}{4}$	6M	20BSX14.5	L3
	OR			
15(a)	Using Fourier integral show that $\int_0^\infty \frac{1-\cos\pi\lambda}{\lambda} \sin x\lambda d\lambda = \begin{cases} \pi/2, & if\ 0 < x < \pi \\ 0, & if\ x > \pi \end{cases}$	6M	20BSX14.5	L3
15(b)	Find the inverse Fourier cosine transform of $\frac{\sin ap}{p}$	6M	20BSX14.5	L3

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Sontyam, Vizag, Andhra Pradesh

Preamble: This feedback form AC 23 is intended to receive feedback on the quality of questions to ensure that the intended learning outcomes in terms Knowledge, Understanding and Skill are assessed. Also this form helps us to improve the quality of the questions that appear in the assessment instrument.

The Vision of the Institute
To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : G. RAVINDRANATH Designation : ASST. PROF., CSE.
Organization : LIET (A), VZM.
Academic Year : 2020 – 2021
Semester : 2 – 1
Curse Title : COMPUTER ORGANIZATION

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? GOOD & overwhelmed with RBT Level's.

G. Ravi
26/2/22

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE ✓ | ECE | EEE | ME | BS &H

Name of the Reviewer : P. Bharathi Designation : Asst. Prof
Organization : RIT
Academic Year : 2020-21
Semester : I
Curse Title : Computer Organization

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

P. B.

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	CSE, CSE (AI & ML) & CS (DS)			Academic Year	2021 - 2022
Course Code	20CS305	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	COMPUTER ORGANIZATION						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Find (1001101 - 10101001) using 2's complement?	20CS305.1	L2
2	List any three Memory reference Instructions.	20CS305.2	L1
3	What are the functions of control memory?	20CS305.3	L1
4	What is Divide over flow?	20CS305.4	L1
5	List any two advantages of Virtual memory	20CS305.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain operations on unsigned binary numbers and perform the subtraction with the following unsigned binary numbers using 2's compliment. i) 11010-10000 ii) 11010-1101 iii) 100-110000	6M	20CS305.1	L2
6 (b)	Draw the circuit diagram of a 4-bit binary counter with parallel load and explain its working with its function table.	6M	20CS305.1	L1
	OR			
7 (a)	Represent the decimal number 7453 in (i) BCD (ii) Excess-3 (iii) 2421 (iv) Binary number	6M	20CS305.1	L2
7 (b)	Explain the fixed point representation with an example.	6M	20CS305.1	L2
8 (a)	Explain about arithmetic micro operations in detail.	6M	20CS305.2	L2
8 (b)	Explain memory-reference instructions. Draw the flow chart for memory-reference instructions.	6M	20CS305.2	L2
	OR			
9 (a)	Explain about the 4-bit binary adder-subtractor with neat sketches	6M	20CS305.2	L2
9 (b)	Draw the diagram of 4-bit arithmetic circuit. Explain the function of circuit with the help of function table.	6M	20CS305.2	L2
10 (a)	What are different types of instruction formats? Explain with examples.	8M	20CS305.3	L2
10 (b)	Explain about the format of microinstruction.	4M	20CS305.3	L2
	OR			
11 (a)	Explain five addressing modes with examples in detail.	5M	20CS305.3	L2
11 (b)	Explain about various components in the organization of a micro programmed control unit.	7M	20CS305.3	L2
12 (a)	What are the steps involved in the addition of 2's complement notation. Explain with an example	6M	20CS305.4	L2
12 (b)	Explain Booth multiplication algorithm with an example	6M	20CS305.4	L2
	OR			
13 (a)	What is divide overflow. Explain about division of two signed-magnitude numbers with a neat flow chart.	6M	20CS305.4	L2
13 (b)	Draw the flow chart for addition and subtraction of two floating point numbers. Also explain about its hardware implementation.	6M	20CS305.4	L2
14 (a)	What is locality of reference? Discuss about types of mapping techniques used in cache memory.	7M	20CS305.5	L2
14 (b)	What is the difference between isolated I/O and memory mapped I/O?	5M	20CS305.5	L2
	OR			
15 (a)	Explain about handshaking with a neat block diagram.	6M	20CS305.5	L2
15 (b)	Explain about Direct Memory Access with neat block diagram.	6M	20CS305.5	L2

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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE ✓ | ME | BS &H

Name of the Reviewer : B. Satyanarayana Designation : Asst professor
Organization : ANITS
Academic Year : 2021-2022
Semester : III
Curse Title : DC Machines and Transformers.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 5

B. Satyanarayana

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	**Program**	EEE			**Academic Year**	2021 - 2022
Course Code	20EE304	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	DC MACHINES & TRANSFORMERS						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Identify any two features of multiply excited magnetic field system	20EE304.1	L1
2	Define the term commutation used in dc machine	20EE304.2	L1
3	Differentiate 3-point starter with 4-point starter	20EE304.3	L2
4	Define all day efficiency of a transformer	20EE304.4	L2
5	List any four conditions to connect transformer in parallel	20EE304.5	L2

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	Show that the torque in a doubly excited magnetic system is equal to the rate of increase of the field energy with respect to displacement at constant currents	12M	20EE304.1	L2
	OR			
7	Derive the expression of the flux, reluctance of the magnetic material with air gap	12M	20EE304.1	L2
8 (a)	Derive an expression for the emf generated in the armature winding of a dc generator	6M	20EE304.2	L2
8 (b)	An 8 pole lap wound armature having 40 slots with 12 conductors/ slot generates 500 V. Determine speed at which machine is running if the flux per pole is 50 mWb	6M	20EE304.1	L3
	OR			
9 (a)	Explain demagnetizing & cross magnetizing effects of armature reaction	6M	20EE304.2	L2
9 (b)	Draw the internal and external characteristics of DC series generator in detail	6M	20EE304.2	L2
10 (a)	Discuss the speed torque characteristics of DC shunt, series and compound motors with necessary diagrams	12M	20EE304.3	L2
	OR			
11 (a)	Identify the role of starter in DC Motor operation. Also explain the working of three point starter with neat diagram.	12M	20EE304.3	L2
12 (a)	Derive the EMF equation of transformer	6M	20EE304.4	L2
12 (b)	The voltage per turn of a single-phase transformer is 1.1 V. When the primary winding is connected to a 220 V, 50 Hz A.C. supply, the secondary voltage is found to be 550 V. Find: i) Primary and secondary turns ii) Core area if the maximum flux density is 1.1 Wb/m^2	6M	20EE304.4	L3
	OR			
13 (a)	Draw and explain the equivalent Circuit diagram of single phase Transformer	6M	20EE304.4	L3
13 (b)	Compare the features of shell type and core type transformers	6M	20EE304.4	L2
14	Draw the various types of three phase transformer connections and brief each one of them	12M	20EE304.5	L2
	OR			
15	A 10 kVA, 500/250 V, 50 Hz single-phase transformer gave the following test Data: OC Test (LV side): 250 V, 1.0 A, 80 W, SC Test (HV side): 25 V, 12 A, 100 W, Where LV refers to the low voltage and HV refers to high voltage side. Determine the following: (i) Equivalent circuit referred to LV side, (ii) Secondary load voltage at 0.8 p.f. lagging with full-load current	12M	20EE304.5	L3

G. Kalyani
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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : B. Satyanarayana Designation : Asst professor
Organization :
Academic Year : ANITS
Semester : 2021-22
Curse Title : III
ECA

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

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7. In general, how do you rate the quality and standard of questions? 5

B. Satyanarayana

NSRIT

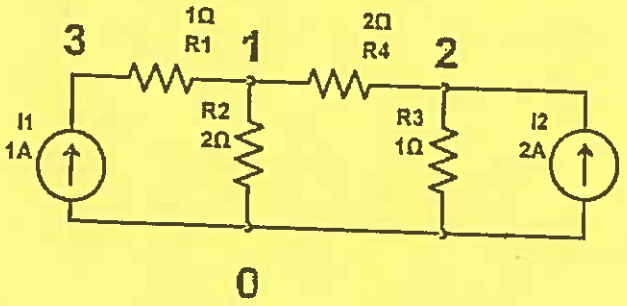
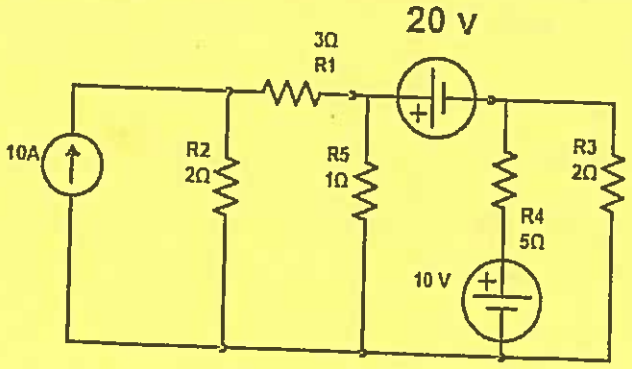
Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	EEE			Academic Year	2021 - 2022
Course Code	20EE303	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	ELECTRICAL CIRCUIT ANALYSIS						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	An Electric iron is rated 1000W, 240V. Find the current drawn & resistance of the heating element.	20EE303.1	L3
2	What is the impedance of (2+j5)Ω.	20EE303.2	L1
3	State Reciprocity Theorem	20EE303.3	L1
4	What is the relationship between Z-parameters and Y-parameters?	20EE303.4	L2
5	Write the sinusoidal response of (a) RC circuit (b) RL circuit.	20EE303.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Discuss the Kirchhoff's Laws with an example	6M	20EE303.1	L2
6 (b)	Determine the voltages 1 and 2 of the network in Fig. by nodal analysis. 	6M	20EE303.1	L3
	OR			
7 (a)	Explain the Resistance parameter series and parallel combination technique with an example	6M	20EE303.1	L2
7 (b)	Determine current in 5Ω resistor for the circuit shown in figure with network topology. 	6M	20EE303.1	L3
8 (a)	A series RLC circuit is supplied with a voltage source of 230 V, 50Hz. Determine circuit current and power factor if R=40Ω, L=0.2H and C=50μF.	6M	20EE303.2	L3
8 (b)	Draw the phasor relation for series RLC circuit.	6M	20EE303.2	L2
	OR			
9 (a)	A resistor of 150Ω, inductance of 200mH and a capacitance of 10μF are connected in series across 500V, 150Hz supply. Determine the following (i) Impedance (ii) current flowing through the circuit (iii) power factor (iv) voltage across R,L &C (v) power in watts	6M	20EE303.2	L3

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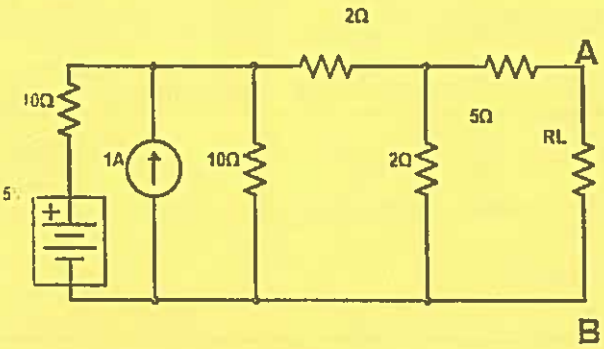
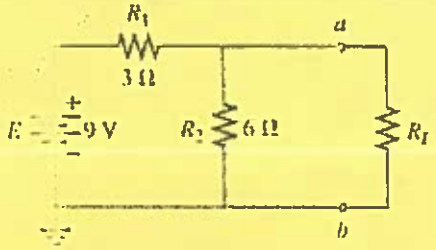
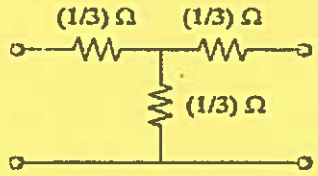
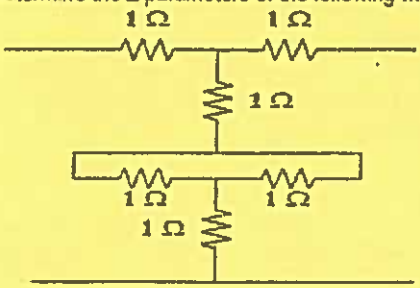
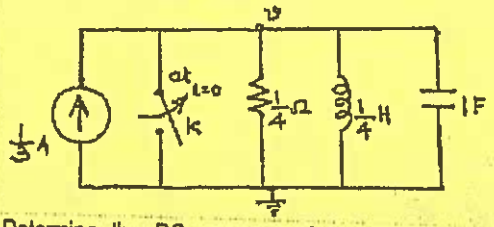
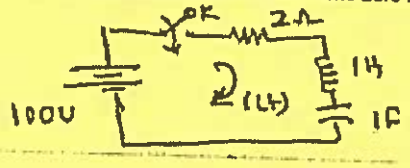
9 (b)	A V AC circuit contain 10 Ω resistance and 30 Ω inductive re ce in series. What is average power of this circuit?	6M	20EE303.2	L3
	In t circuit shown in Fig., obtain the condition from maximum power tra r to the load RL. Hence det rmine the maximum power tra rred.			
10 (a)		7M	20EE303.3	L3
10 (b)	Sta nd Explain the superposition theorem.	5M	20EE303.3	L2
	OR			
	Fin evenin's equivalent for the following circuit.			
11 (a)		7M	20EE303.3	L3
11 (b)	State nd explain milliman's theorem	5M	20EE303.3	L3
	Determine Y parameters of the following network			
12 (a)		7M	20EE303.4	L3
12 (b)	Explain about Y-parameters of a two-port network	7M	20EE303.4	L2
	OR			
	Determine the Z parameters of the following two port network.:			
13 (a)		6M	20EE303.4	L3
13 (b)	Derive Z parameters in terms of Y and h parameters	6M	20EE303.4	L2
14 (a)	Figure shows RLC parallel circuit excited by a dc current source. At t=0 the switch is opened .find v(t)	7M	20EE303.5	L3

				
14 (b)	Determine the DC response of RL circuit and sketch the voltage transients	5M	20EE303.5	L2
	OR			
15 (a)	Using laplace transform determine the current in circuit shown in figure when the switch is closed at t = 0. Assume zero initial condition. 	6M	20EE303.5	L3
15 (b)	Derive the transient response of an RC circuit with DC excitation	6M	20EE303.5	L3

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U.G.)	**Program**	**Civil Engineering**			**Academic Year**	2021 - 2022
Course Code	20CE304	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Strength of Materials**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is the use of Mohr's circle?	20CE304.1	L1
2	Write the equation for the simple bending theory	20CE304.2	L1
3	Calculate the maximum deflection of a simply supported beam carrying a point load of 85 KN at mid span. Span = 5 m, E= 21000 kN/m²	20CE304.3	L1
4	Define (i) Slenderness ratio (ii) Radius of Gyration	20CE304.4	L1
5	Distinguish between Circumferential stress (or hoop stress) and Longitudinal stress	20CE304.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	The bar shown in Fig. 1 is tested in universal testing machine. It is observed that at a load of 40 kN the total extension of the bar is 0.280 mm. Determine the Young's modulus of the material.	12M	20CE304.1	L1

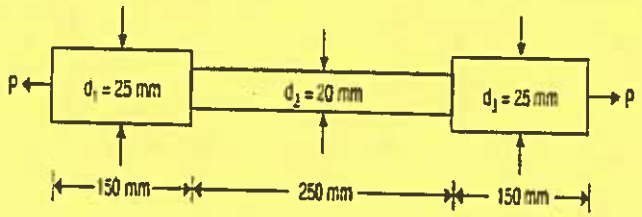

Figure.1

OR

7	A specimen of steel 20 mm diameter with a gauge length of 200 mm is tested to destruction. It has an extension of 0.25 mm under a load of 80 kN and the load at elastic limit is 102 kN. The maximum load is 130 kN. The total extension at fracture is 56 mm and diameter at neck is 15 mm. Find (i) The stress at elastic limit (ii) Young's modulus (iii) Percentage elongation (iv) Percentage reduction in area (v) Ultimate tensile stress	12M	20CE304.1	L2

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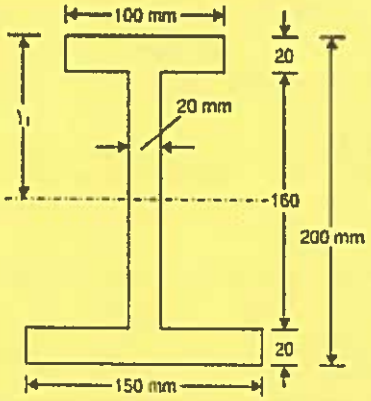
8	The unsymmetric I-section as shown in Figure. 2 is the cross-section of a beam, which is subjected to a shear force of 60 kN. Draw the shear stress variation diagram across the depth  Figure 2	12M	20CE304.2	L3
	OR			
9	A circular steel pipe of external diameter 60 mm and thickness 8 mm is used as a simply supported beam over an effective span of 2 m. If permissible stress in steel is 150 N/mm², determine the maximum concentrated load that can be carried by it at mid span as shown in Figure. 3  Figure 3	12M	20CE304.2	L2
10	A simply supported beam span 14m, carrying concentrated loads of 12KN and 8KN at two points 3mts and 4.5m from the two ends respectively. Moment of Inertia I for the beam is $160x10^3$ mm⁴ and E = 210KN/mm² .Calculate deflection of the beam at points under the two loads by moment area method	12M	20CE304.3	L2
	OR			
11	A beam AB of 8 m span is simply supported at the ends. It carries a point load of 10 kN at a distance of 1 m from the end A and a concentrated load of 15 kN at a distance of 2 m from the end B. If I = 10×10^6 m⁴, Using Macaulay's Method, Determine: (a) Deflection at the mid-span, (b) Slope at the end A.	12M	20CE304.3	L2
12	A simply supported beam of length 6m is subjected to uniformly distributed load of 80 kN/m over the whole span and deflects 25 mm at the centre. Determine the crippling loads when the beam is used as column with the following conditions. I. Both the ends fixed II. Both the ends pin jointed	12M	20CE304.4	L3
	OR			
13	A hollow cylindrical cast iron column is 3 m long with both ends fixed. Determine the minimum diameter of the column if it has to carry a safe load of 150 kN with a factor of safety. Take the internal diameter as 0.6 times the external diameter	12M	20CE304.4	L3

Take σ_c =450 N/mm² and $\alpha = \frac{1}{1700}$ in Rankine's formula

14	A hollow shaft is to transmit 200 kW at 80 r.p.m. If the shear stress is not to exceed 60 MPa and internal diameter is 0.6 of the external diameter, find the diameters of the shaft.	12M	20CE304.5	L2
	OR			
15	A thin cylindrical shell is 3m long and 1m in internal diameter. It is subjected to internal pressure of 1.2 MPa. If the thickness of the sheet is 12mm, find the circumferential stress, longitudinal stress, changes in diameter, length and volume. Take E=200 GPa and μ= 0.3	12M	20CE304.5	L2

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- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : P. Ramya Designation : Asst. Prof.
Organization : ANITS
Academic Year : 2021-22
Semester : II
Curse Title : MOS SOM (Mech) (Civil)

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale No (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Very Good.

P. Ramya

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	**Program**	ME			**Academic Year**	2021 - 2022
Course Code	20ME303	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	**Mechanics of Solids**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Poisson's ratio.	20ME303.1	L1
2	Write the relationship between Shear force and Bending moment.	20ME303.2	L1
3	M/I=f/y=E/R – justify.	20ME303.3	L2
4	What are the methods for finding out the slope and deflection at a section?	20ME303.4	L2
5	Define thin cylinder.	20ME303.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	The stresses on two perpendicular planes through a point in a body are 90 MPa (Tensile) and 70 MPa (Compression). Determine the normal and tangential stress on a plane at an angle 25^0 with the vertical. Draw configuration and Mohr's circle.	6M	20ME303.1	L2
6 (b)	A steel rod of length 5 m and 30 mm diameter is subjected to load of 50 kN. Determine change in length, change in diameter and change in volume. Take E = $2x10^5$ N/mm^2 and poisons ratio=0.25.	6M	20ME303.1	L2
	OR			
7 (a)	A steel rod of length 60 cm and two copper rods of length 30 cm each together support a load of 450 kN. C/S area of steel rod is 2800 mm^2 and each copper rod is 1200 mm^2. Solve the stresses in the rods. Take Es = $2x10^5$ N/mm^2 and Ec = $1x10^5$ N/mm^2.	6M	20ME303.1	L2
7 (b)	Draw a neat stress- strain curve diagram of stainless steel and explain.	6M	20ME303.1	L2
8	A cantilever beam 2 m long fixed at A is carrying point load of 10 kN at B, C and D each and at a distance of 0.5 m, 1.0 m, and 1.5 m from the fixed end. Calculate the Shear force and bending moment at salient points.	12M	20ME303.2	L2
	OR			
9 (a)	A beam of length 7 m is simply supported at its ends. It is loaded with a Uniformly Distributed load of 10 kN/m throughout and 20 kN concentrated load acting at centre. Draw the SF and BM diagrams.	7M	20ME303.2	L2
9 (b)	Draw the Shear force and bending moment diagrams for a simply supported beam of length L carrying a point load W at its middle point.	5M	20ME303.2	L2
10 (a)	Discuss the assumptions involved in the theory of simple bending.	6M	20ME303.3	L2
10 (b)	Derive the section modulus of rectangular and solid circular.	6M	20ME303.3	L2
	OR			
11	Derive the bending equation.	12M	20ME303.3	L3
12 (a)	Derive the equation for deflection of a cantilever beam with a point load acting at free end by double integration method.	6M	20ME303.4	L2
12 (b)	A beam of length 7m is simply supported at its ends. It is loaded with a Uniformly Distributed load of 10 kN/m throughout and 20 kN concentrated load acting at centre. Find the central deflection by moment area method.	6M	20ME303.4	L2
	OR			
13	Derive the torsion equation for circular shafts.	12M	20ME303.4	L2
14 (a)	Determine the change in dimensions of a thin cylinder due to internal pressure.	6M	20ME303.5	L3
14 (b)	Explain about circumferential and longitudinal stress.	6M	20ME303.5	L2
	OR			
15	Derive Euler's crippling formula for columns.	12M	20ME303.5	L2

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : V.K.Kiran Designation : Asst. Prof
Organization : Raghu Institute of Technology
Academic Year : 2022
Semester : II
Curse Title : Signals & Systems

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 5

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	ECE			Academic Year	2021 - 2022
Course Code	20EC303	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	Signals and Systems						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Give the Mathematical equation of impulse signal and plot its waveform	20EC303.1	L1
2	State Dirichlet's conditions	20EC303.2	L1
3	Give two properties of Convolution operation	20EC303.3	L1
4	List any two filter characteristics of linear systems	20EC303.4	L1
5	Define ROC of the laplace transform	20EC303.5	L3

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	What are Continuous and Discrete Signals? Give examples	6M	20EC303.1	L1
6 (b)	What is System? Classify the System with suitable examples	6M	20EC303.1	L1
	OR			
7	Derive the Response for Impulse and Step response of a System	12M	20EC303.1	L1
8(a)	Derive an expression for mean square error using the expression of a function using orthogonal signal space	6M	20EC303.2	L3
8 (b)	Find the Fourier transform of a Full wave rectified output whose fundamental period is π	6M	20EC303.2	L3
	OR			
9 (a)	State and prove any three properties of Fourier Transform	6M	20EC303.2	L2
9 (b)	Find the Fourier Transform of the following signals. a) $\delta[t]$ b) U(t) c) e^{-at}	6M	20EC303.2	L3
10 (a)	Perform the convolution of the two sequences x[n]={1 2 3 4} and h[n]= {1,-1,1,-1}	4M	20EC303.3	L3
10 (b)	Explain and define Auto correlation function, write its properties and prove any two of them	8M	20EC303.3	L4
	OR			
11 (a)	State and prove Parseval's theorem for energy / power signals	8M	20EC303.3	L4
11 (b)	Perform the convolution of $h(t)=e^{-2t}u(t)$ and $x(t)= e^{-3t}u(t)$	4M	20EC303.3	L3
12	Derive the Relationship between Bandwidth and Rise time	12M	20EC303.4	L2
	OR			
13 (a)	State and Prove sampling Theorem	6M	20EC303.4	L2
13 (b)	Explain distortionless transmission through a system	6M	20EC303.4	L2
14 (a)	Obtain the Z-transform of $x(n) = - n^2u(-n-1)$	6M	20EC303.5	L4
14 (b)	State and prove Linearity and time Shifting properties of z-transform	6M	20EC303.5	L2
	OR			
15 (a)	Obtain the Laplace transform of the following signals i) $\delta[t]$ ii) $e^{-2t}u(t)$ iii) $A\sin w_0 t\, u(t)$	6M	20EC303.5	L4
15 (b)	State and Prove the initial and final value theorem of Laplace transform	6M	20EC303.5	L2

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : N.P.PATNAIK M Designation : Asst. Prof
Organization : LENDI Engineering College
Academic Year : 2021 - 2022
Semester :
Curse Title : Database Management Systems

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. A Anupama Designation : Associate professor
Organization : ANITS
Academic Year : 2022
Semester : II
Curse Title : DBMS

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 4

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : B. Ravi Teja Designation : ~~KSRE~~ Assistant Professor
Organization : RIT
Academic Year : 2022
Semester : III
Curse Title : DBMS

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Excellent

B. Ravi Teja

NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	CSE, CSM &CSD			Academic Year	2021 – 2022
Course Code	20CS303	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	Database Management Systems						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is a database Management System? Give any two examples.	20CS303.1	L1
2	List out any two aggregate operators	20CS303.2	L1
3	Write the difference between Drop, Delete and Truncate statements in SQL Server.	20CS303.3	L1
4	What is ISAM?	20CS303.4	L1
5	State two-phase locking protocol	20CS303.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Compare database systems and file systems.	6M	20CS303.1	L2
6 (b)	Explain the different roles performed by the data base administrator.	6M	20CS303.1	L2
	OR			
7 (a)	Explain the E-R diagram components and notations with their extended features.	6M	20CS303.1	L2
7 (b)	Define Data Abstraction and discuss levels of Abstraction.	6M	20CS303.1	L2
8	Explain various operations in relational algebra with example.	12M	20CS303.2	L2
	OR			
9 (a)	Write about views and updates on views.	6M	20CS303.2	L2
9 (b)	What are the various integrity constraint relations of relational model?	6M	20CS303.2	L2
10 (a)	What are Null values? Discuss about disallowing Null values.	6M	20CS303.3	L3
10 (b)	Define a nested query with an example.	6M	20CS303.3	L3
	OR			
11 (a)	Illustrate trigger with example.	6M	20CS303.3	L3
11 (b)	Discuss different types of aggregate functions with examples in SQL.	6M	20CS303.3	L2
12 (a)	Define functional dependencies. How are primary keys related to FD's?	6M	20CS303.4	L2
12 (b)	Explain Dense and Sparse indices.	6M	20CS303.4	L2
	OR			
13	Define normalization, why do we need Normalization? Explain 1NF, 2NF, 3NF Normal forms	12M	20CS303.4	L2
14 (a)	Explain ACID properties and Illustrate them through examples.	6M	20CS303.5	L2
14 (b)	Discuss about conflict Serializability with an example.	6M	20CS303.5	L3
	OR			
15 (a)	What is ARIES and list the phases of ARIES.	6M	20CS303.5	L3
15 (b)	Discuss about various database recovery approaches.	6M	20CS303.5	L2

G. Kalyani
Controller of Examinations
NSRIT (A)
Visakhapatnam

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : SATHAR Designation Asst. prof
Organization : ANITS
Academic Year : 2021-22
Semester : III
Curse Title : DAA

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

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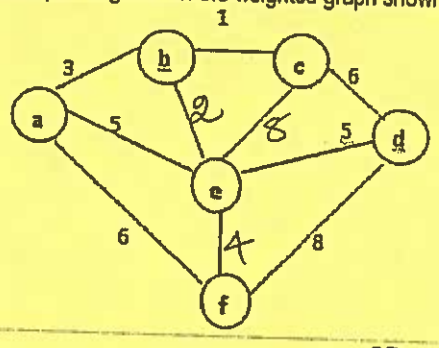
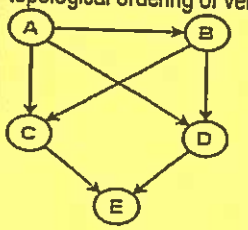
Semester End Examination, January/February 2022

Degree	B. Tech. (U. G.)	Program	CSE			Academic Year	2021 - 2022
Course Code	20CS302	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	Design and Analysis of Algorithms						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define time complexity and space complexity	20CS302.1	L1
2	Write an algorithm to find the sum of squares of first n integers	20CS302.2	L2
3	Compare divide and conquer strategy with dynamic programming.	20CS302.3	L2
4	What are NP-hard problems?	20CS302.4	L1
5	State the reason for terminating the search path at the current node in the branch and bound algorithm	20CS302.5	L2

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain asymptotic classes with examples.	6M	20CS302.2	L2
6 (b)	Write a recursive algorithm to find the factorial of a given number and analyze the time and space complexity.	6M	20CS302.2	L2
	OR			
7 (a)	Write a linear search algorithm and analyze the efficiency of the algorithm	6M	20CS302.2	L2
7 (b)	Write the bubble sort algorithm and analyze its complexity	6M	20CS302.2	L2
8 (a)	Write the Prim's algorithm and using Prim's algorithm, determine the minimum cost spanning tree for the weighted graph shown below. 	12M	20CS302.4	L3
	OR			
9 (a)	Find an optimal solution to the knapsack instance n=4 objects and the capacity of knapsack m=15, profits (10, 5, 7, 11) and weight are (3, 4, 3, 5).	12M	20CS302.4	L3
10 (b)	Write a quick sort algorithm and trace this algorithm for n =8 elements 24,12, 35, 23, 45, 34,20, 48	12M	20CS302.4	L3
	OR			
11 (a)	Write the topological sorting algorithm and apply it to find the topological ordering of vertices in the following graph 	12M	20CS302.4	L3

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12 (a)	Describe NP-hard, NP-complete problems, and their characteristics. Give examples in graph problems	4M	20CS302.3	L2
12 (b)	Sort the following set of numbers using merge sort algorithm 5, 3, 7, 1, 8, 4, 6,9	8M	20CS302.3	L2
	OR			
13 (a)	State and explain cook's theorem.	12M	20CS302.3	L2
14 (a)	Solve the following instance of sum of subset problem: S = {1,5,2,7} with d = 8 using bactracking	6M	20CS302.5	L3
14 (b)	Construct state space tree for 4 queen's problem with one solution	6M	20CS302.5	L3
	OR			
15 (a)	Apply branch bound principle to solve the following TSP C0 C1 C2 C3 C4 C0 INF 20 30 10 11 C1 15 INF 16 4 2 C2 3 5 INF 2 4 C3 19 6 18 INF 3 C4 16 4 7 16 INF	12M	20CS302.5	L3

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The Mission of the Institute
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- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : B. VENU Designation Asst. Prof.
Organization : RITCA)
Academic Year : 2021-22
Semester : III
Curse Title : Thermodynamics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions?

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	ME			**Academic Year**	2021 - 2022
Course Code	20ME302	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Thermodynamics**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is Quasi static process?	20ME301.1	L1
2	What is a steady flow process and unsteady flow process?	20ME301.2	L2
3	What is PMM of Second kind? Why it is impossible?	20ME301.3	L2
4	What is a pure substance?	20ME301.4	L1
5	What is Specific humidity and relative humidity?	20ME301.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	A temperature scale of certain thermometer is given by the relation $t = a \ln p + b$ where a and b are constants and p is the thermometric property of the fluid in the thermometer. If at the ice point and steam point the thermometric properties are found to be 1.5 and 7.5 respectively what will be the temperature corresponding to the thermometric property of 3.5 on Celsius scale	6M	20ME301.1	L3
6 (b)	Explain the working of constant volume gas thermometer	6M	20ME301.1	L2
	OR			
7 (a)	A piston and cylinder machine containing a fluid system has a stirring device. The piston is frictionless, and it is held down against the fluid due to atmospheric pressure of 101.3 kPa. The stirring device is turned 9500 revolutions with an average torque against the fluid of 1.25 Nm. Meanwhile the piston of 0.65 m diameter moves out 0.6 m. Find the net work transfer for the system.	5M	20ME301.1	L3
7 (b)	Example 2.20. To a closed system 150 kJ of work is supplied. If the initial volume is 0.6 m^3 and pressure of the system changes as $p = 8 - 4V$, where p is in bar and V is in m^3, determine the final volume and pressure of the system	7M	20ME301.1	L3
8 (a)	A system receives 50 kJ of heat while expanding with volume change of 0.14 m^3 against an atmosphere of 1.2×10^5 N/m^2. A mass of 90 kg in the surroundings is also lifted through a distance of 5.5 metres. (i) Find the change in energy of the system. (ii) The system is returned to its initial volume by an adiabatic process which requires 110 kJ of work. Find the change in energy of the system. (iii) For the combined processes of (i) and (ii) determine the change in energy of the system.	6M	20ME301.2	L3
8 (b)	Explain first law of thermodynamics applied to a process	6M	20ME301.2	L2
	OR			
9 (a)	A cylinder contains 0.45 m^3 of a gas at 1×10^5 N/m^2 and 80°C. The gas is compressed to a volume of 0.13 m^3, the final pressure being 5×10^5 N/m^2. Determine : (i) The mass of gas ; (ii) The value of index 'n' for compression ; (iii) The increase in internal energy of the gas ; (iv) The heat received or rejected by the gas during compression. Take $\gamma = 1.4$, $R = 294.2$ J/kg°C	6M	20ME301.2	L3
9 (b)	Explain the steady flow energy equation applied to Steam of Gas turbine with the help of a neat diagram	6M	20ME301.2	L2

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10 (a)	An ideal gas is heated from temperature T_1 to T_2 by keeping its volume constant. The gas is expanded back to its initial temperature according to the law pv^n = constant. If the entropy change in the two processes are equal, find the value of n in terms of the adiabatic index γ.	6M	20ME301.3	L2
10 (b)	Discuss about Carnot theorem with neat diagram	6M	20ME301.3	L2
	OR			
11 (a)	A reversible heat pump is used to maintain a temperature of 0°C in a refrigerator when it rejects the heat to the surroundings at 25°C. If the heat removal rate from the refrigerator is 1440 kJ/min, determine the C.O.P. of the machine and work input required.	6M	20ME301.3	L3
11 (b)	Explain about heat engine and heat pump	6M	20ME301.3	L2
12 (a)	Two boilers one with superheater and other without superheater are delivering equal quantities of steam into a common main. The pressure in the boilers and main is 20 bar. The temperature of steam from a boiler with a superheater is 350°C and temperature of the steam in the main is 250°C. Determine the quality of steam supplied by the other boiler. Take c_{ps} = 2.25 kJ/kg.	6M	20ME301.4	L3
12 (b)	Steam at 140 bar has an enthalpy of 3001.9 kJ/kg, find the temperature, the specific volume and the internal energy.	6M	20ME301.4	L2
	OR			
13 (a)	1000 kg of steam at a pressure of 16 bar and 0.9 dry is generated by a boiler per hour. The steam passes through a superheater via boiler stop valve where its temperature is raised to 380°C. If the temperature of feed water is 30°C, determine : (i) The total heat supplied to feed water per hour to produce wet steam. (ii) The total heat absorbed per hour in the superheater. Take specific heat for superheated steam as 2.2 kJ/kg K	7M	20ME301.4	L3
13 (b)	Find the specific volume, enthalpy and internal energy of wet steam at 18 bar, dryness fraction 0.85	5M	20ME301.4	L2
14 (a)	Derive the expressions for the internal energy and specific heats for mixtures of ideal gases.	6M	20ME301.5	L2
14 (b)	On a particular day the weather forecast states that the dry bulb temperature is 37°C, while the relative humidity is 50% and the barometric pressure is 101.325 kPa. Find the humidity ratio, dew point temperature and enthalpy of moist air on this day.	6M	20ME301.5	L3
	OR			
15 (a)	Explain the following: i) Heating and dehumidification ii) Cooling and dehumidification	8M	20ME301.5	L2
15 (b)	What do you understand by dry bulb temperature and wet bulb temperatures? When do the DBT, WBT and DPT become equal?	4M	20ME301.5	L2

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Dept.: Civil Engg. | CSE | ECE ✓ | EEE | ME | BS &H

Name of the Reviewer : K. Gayatri Designation : Asst professor
Organization : Lendi Institute of Engg & Technology
Academic Year : 2021-22
Semester : I
Curse Title : RVSP.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

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7. In general, how do you rate the quality and standard of questions?

K. Gayatri

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE ✓ | EEE | ME | BS &H

Name of the Reviewer : N. Rajasekhar Designation : Asso P.f
Organization : LIET
Academic Year : 2021 - 22
Semester : II
Curse Title : PVSP

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions? 5

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20EC304	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	III
Course	**Random Variables and Stochastic Process**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	State Baye's theorem of probability	20EC304.1	L1
2	List any two properties of moment generating function	20EC304.2	L1
3	State Central Limit Theorem	20EC304.3	L1
4	List any four properties of Power Spectral Density	20EC304.4	L1
5	Define effective noise temperature	20EC304.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Define Joint Probability, Marginal Probability and Conditional Probability and also derive the relation among them.	6M	20EC304.1	L2
6 (b)	In a family consisting of two children, probability for a child to be a boy is 0.5. Find the probability that at least one of the two children is a boy	6M	20EC304.1	L3
	OR			
7	A random variable X has pdf shown below. i) Find the value of k. ii) Find P(1/4< X < ½). $f(x)=\begin{cases} kx^2(1-x^3), & 0<x<1 \\ 0, & otherwise \end{cases}$	12M	20EC304.1	L2
8	Find the mean and variance of uniformly distributed random variable	12M	20EC304.2	L2
	OR			
9 (a)	Let Y=2X+3, If the random variable 'X' is uniformly distributed over [-1, 2], determine pdf of random variable 'Y', $f_Y(y)$	6M	20EC304.2	L2
9 (b)	Explain about the characteristic function and state its properties	6M	20EC304.2	L2
10 (a)	List any four properties of joint density function	2M	20EC304.3	L1
10 (b)	Two random variables X and Y have a joint probability density function $f_{XY}(x,y)=\frac{5}{16}x^2y, \quad 0<x<2, \quad 0<y<x$ $=0, \quad else$ a) Find the marginal density functions of X and Y b) Are X and Y statistically independent?	10M	20EC304.3	L3
	OR			

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11 (a)	Find the density function of W=X+Y, where the densities of X and Y are assumed to be: $f_x(x)=4u(x)e^{-4x}$ and $f_y(y)=5u(y)e^{-5y}$	6M	20EC304.3	L2
11(b)	The joint characteristic function of two random variables X and Y is given by $\phi_{XY}(\omega_1, \omega_2) = \exp(-\omega_1^2 - 4\omega_2^2)$ Check whether X and Y are uncorrelated or not	6M	20EC304.3	L3
12 (a)	State and explain four properties of auto-correlation of a random process 'X(t)'	6M	20EC304.4	L2
12 (b)	Find the mean and variance of a stationary random process whose auto-correlation function is given by $R_{XX}(\tau) = 16+3/(8+\tau^2)$	6M	20EC304.4	L4
	OR			
13 (a)	Prove that the random process $X(t)= A\ Cos(\omega t+\Theta)$ is wide sense stationary if it is assumed that A and ω are constants and Θ is uniformly distributed random variable in the interval $[0,2\pi]$	8M	20EC304.4	L4
13 (b)	State and explain the Wiener-Khintchine relation	4M	20EC304.4	L2
14 (a)	Derive the relation between PSDs of input and output random process of an LTI system	6M	20EC305.5	L2
14 (b)	If Y(t) = X(t+a) - X(t-a) then show that $S_{YY}(\omega)= 4\ S_{XX}(\omega)\ \sin^2(a\omega)$ where 'X(t)' is the input random process and 'Y(t)' is the output random process of an LTI system.	6M	20EC304.5	L3
	OR			
15 (a)	Define Band limited and Narrow band Processes	2M	20EC304.5	L1
15 (b)	Derive the expression for average noise figure of cascaded two port networks	10M	20EC304.5	L3

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Dept.: Civil Engg. | CSE | ECE | EEE | ME ✓ | BS &H

Name of the Reviewer : K. Suresh babu Designation : Asst Prof
Organization : RIT
Academic Year :
Semester : III
Curse Title : Material Science & Metallurgy.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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NSRIT

Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	Mechanical Engineering	Academic Year	2021 - 2022
Course Code	20ME303	Test Duration	3 Hrs. Max. Marks 70	Semester	III
Course	Material Science & Metallurgy				

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is electron compound? Give examples	20ME303.1	L2
2	Compare spheroidal graphite cast Iron and gray cast Iron	20ME303.2	L2
3	What is meant by hardenability?	20ME303.3	L1
4	List any two applications of powder metallurgy	20ME303.4	L1
5	What are crystallized ceramics?	20ME303.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	What is a crystalline material? Distinguish between single crystal material and polycrystalline material?	6M	20ME303.1	L2
6 (b)	What are intermediate phases? What are the various types of intermediate phases?	6M	20ME303.1	L2
	OR			
7 (a)	State and explain Gibbs phase rule.	6M	20ME303.1	L2
7 (b)	Draw a neat labeled Iron-Iron Carbide diagram and explain eutectic and eutectoid reaction in it.	6M	20ME303.1	L2
8 (a)	Explain structure and properties of Gray cast iron.	6M	20ME303.2	L2
8 (b)	Differentiate between white cast iron and malleable cast iron.	6M	20ME303.2	L2
	OR			
9 (a)	Describe the composition, heat treatment and applications of the Titanium and its alloys	6M	20ME303.2	L2
9 (b)	Discuss briefly about super alloys and mention their applications.	6M	20ME303.2	L2
10 (a)	Differentiate between annealing and normalizing.	6M	20ME303.3	L2
10 (b)	Define hardenability of a material and explain the factors affecting hardenability.	6M	20ME303.3	L2
	OR			
11 (a)	Draw a TTT diagram for 0.4%C steel and identify the micro structural phases. Explain its features.	6M	20ME303.3	L2
11 (b)	Describe briefly about induction hardening method.	6M	20ME303.3	L2
12 (a)	Explain powder extrusion process.	6M	20ME303.4	L2
12 (b)	Describe rapid sintering methods.	6M	20ME303.4	L2
	OR			
13 (a)	Explain different stages of manufacturing of powder metallurgy components.	6M	20ME303.4	L2
13 (b)	What is sintering in powder metallurgy? Explain.	6M	20ME303.4	L2
14 (a)	Write the classification of ceramics? Explain with examples.	6M	20ME303.5	L2
14 (b)	Explain the importance and applications of composites.	6M	20ME303.5	L2
	OR			
15 (a)	Describe various methods of the manufacturing composites.	6M	20ME303.5	L2
15 (b)	How do you manufacture the composites powder metallurgy components?	6M	20ME303.5	L1

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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Mallika
Designation : Asst - Prof.
Organization : ANITS
Academic Year : 2021-22
Semester : III
Curse Title : WM&T

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 2 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 2 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 1 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? Moderate

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	CE, EEE & MECH			**Academic Year**	2021 - 2022
Course Code	20BSX13	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Numerical Methods & Transforms**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Write the iteration formulas of Regula Falsi method and Secant method	20BSX13.1	L1
2	Prove that $\Delta = \nabla E$	20BSX13.2	L2
3	Write Simpson's three-eighth rule	20BSX13.3	L1
4	Evaluate $L\{(t-1)^3 u(t-1)\}$	20BSX13.4	L2
5	Write the expressions for Fourier integral, Fourier Sine and Fourier Cosine integrals.	20BSX13.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Using bisection method, compute a real root of the equation $xe^x - 2 = 0$, correct to three decimal places.	6M	20BSX13.1	L2
6 (b)	Find a real root of the equation $x \tan x + 1 = 0$ by Newton - Raphson method, correct to three decimal places, near $x = \pi$.	6M	20BSX13.1	L3
	OR			
7 (a)	Find a real root of the equation $x^3 + x - 1 = 0$ that is near to x = 1 by successive approximation method, correct to four decimal places.	6M	20BSX13.1	L2
7 (b)	Solve the following equations by Jacobi method: $5x - y + z = 10$; $2x + 4y = 12$; $x + y + 5z = -1$. Start with the solution (2, 3, 0).	6M	20BSX13.1	L3
8 (a)	Evaluate $\Delta^2\left[\frac{1}{x^2+5x+6}\right] + \Delta[e^{3x} \log 2x]$	6M	20BSX13.2	L3
8 (b)	The area A of a circle of diameter d is given for the following values. Calculate the area of a circle of diameter 7 using Newton's forward interpolation formula.	6M	20BSX13.2	L2

d	5	6	9	11
A	12	13	14	16

OR

9 (a)	Using the method of separation of symbols, prove that $u_0 + u_1 + u_2 + u_3 + \ldots\ldots + u_n = (n+1)C_1 u_0 + (n+1)C_2 \Delta u_0 + (n+1)C_3 \Delta^2 u_0 + \ldots\ldots (n+1)C_{n+1} \Delta^n u_0$	6M	20BSX13.2	L3
9 (b)	Find the number of students who obtained marks between 40 and 45	6M	20BSX13.2	L2
10 (a)	Evaluate $\int_0^6 \frac{1}{4x+5} dx$ by Trapezoidal and Simpson's 3/8th rule, by dividing the interval (0, 6) into 6 parts	6M	20BSX13.3	L2

Marks	30-40	40-50	50-60	60-70	70-80
No. of students	31	42	51	35	31

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Visakhapatnam

10 (b)	Solve $y^1 = xy + 1, y(0) = 1$ using Picard's method and compute y(0.2).	6M	20BSX13.3	L3
	OR			
11 (a)	Evaluate $\int_0^1 \frac{1}{1+x} dx$ by Simpson's $\frac{1}{3}$rd and Simpson's $\frac{3}{8}$th rule.	6M	20BSX13.3	L2
11 (b)	Using Euler method, evaluate $y(0.1)$ and $y(0.2)$ given that $y^1 = x + y, y(0) = 1$.	6M	20BSX13.3	L3
12 (a)	Show that $\int_0^\infty t^2 e^{-4t} \sin 2t \, dt = \frac{1}{250}$	6M	20BSX13.4	L3
12 (b)	Using convolution theorem, evaluate the inverse Laplace transform of $\frac{s}{(s^2+16)^2}$	6M	20BSX13.4	L2
	OR			
13 (a)	Evaluate the Laplace transform of $\frac{e^{at} \sin bt}{t}$	6M	20BSX13.4	L2
13 (b)	Solve $y'''(t) + y(t) = 1$, if $y(0) = y'(0) = y''(0) = 0$ using transform method.	6M	20BSX13.4	L3
14 (a)	Show that $f(x) = e^{\frac{-x^2}{2}}$ is self-reciprocal with respect to Fourier transform.	6M	20BSX13.5	L3
14 (b)	Find the Fourier cosine transform of $f(x) = \begin{cases} x, for\ 0 < x < 1 \\ 2 - x, for\ 1 < x < 2 \\ 0, for\ x > 2 \end{cases}$	6M	20BSX13.5	L2
	OR			
15 (a)	Find the Fourier Transform of $f(x) = x^2, \quad -a < x < a.$ Note that f(x) = 0 otherwise.	6M	20BSX13.5	L2
15 (b)	Find the Fourier sine transform of $f(x) = \frac{e^{-ax}}{x}$.	6M	20BSX13.5	L3

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

Preamble: This feedback form AC 23 is intended to receive feedback on the quality of questions to ensure that the intended learning outcomes in terms Knowledge, Understanding and Skill are assessed. Also this form helps us to improve the quality of the questions that appear in the assessment instrument.

The Vision of the Institute
To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M.T.S Lakshmayya Designation : Asst Prof
Organization : RIT
Academic Year : 2021-22.
Semester : III
Curse Title : Surveying.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

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5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

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7. In general, how do you rate the quality and standard of questions? good

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Semester End Examination, February, 2022

Degree	B. Tech. (U. G.)	Program	Civil Engineering			Academic Year	2021- 2022
Course Code	20CE303	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	SURVEYING						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define principles of surveying	20CE303.1	L1
2	Distinguish between back sight and Fore sight	20CE303.2	L1
3	Define Tangent Point and Point of curve.	20CE303.3	L1
4	Define photogrammettry.	20CE303.4	L1
5	Define GIS.	20CE303.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	Describe the linear measurement of chaining on a slope along with their advantages and disadvantages.	12 M	20CE303.1	L1
	OR			
7	What is meant by local attraction? How is it detected and corrected for local attraction.	12M	20CE303.1	L1
8	Describe the height of instrument method of reducing the levels. Compare the height of instrument method with rise and fall method.	12M	20CE303.2	L2
	OR			
9	Explain the procedure to determine the tacheometric constants by a) Fixed Hair Method b) Movable Hair Method	12M	20CE303.2	L2
10	What is a transition curve? State the various types of transition curves with the help of a neat sketch. Explain briefly its necessity.	12M	20CE303.3	L2
	OR			
11	Discuss about the recent advancements in total stations and their usefulness in monitoring structures.	12M	20CE303.3	L2
12	Explain the aspects of flight planning for an aerial survey and obtain an expression for the number of photographs required for given area of length and width of a survey	12M	20CE303.4	L2
	OR			
13	Describe the various segments of GPS surveying. Also, give a brief account of the applicability and limitations of each technique.	12M	20CE303.4	L2
14	Discuss the possible advantages and disadvantages of using a raster GIS and vector GIS.	12M	20CE303.5	L2
	OR			
15	Discuss in detail about the Supervised and Unsupervised image classification in Geographical Information System.	12M	20CE303.5	L2

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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M.T.S. lakshmayya Designation : Asst. prof
Organization : RIT, VSKP.
Academic Year : 2021-2022
Semester : III-Semester
Curse Title : Building Planning and Drawing

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

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7. In general, how do you rate the quality and standard of questions? good

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	Civil Engineering			**Academic Year**	2021 – 2022
Course Code	20CE302	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Building Planning And Drawing**						

Part A (Short Answer Questions 14 x 3 = 42 Marks) - Answer any three among the following

No.	Questions (1 through 5)	Marks	Learning Outcome (s)	DoK
1(a)	Explain the importance of dimensioning & conventional representations in the drawing and Draw the conventional signs for the following :- i) Brick ii) iii) Concrete iii) Glass iv) Timber.	7 M	20CE302.1	L1
1(b)	Draw the isometric view of 2 brick English Bond with 5 as minimum number of layers.	7 M	20CE302.1	L2
2(a)	Write in detail about for guidelines for planning the buildings to suit their functional requirements	7 M	20CE302.2	L2
2(b)	List out the bye- laws and regulations which include all the features of various types of Buildings.	7 M	20CE302.2	L2
3(a)	What is meant by ASPECT in planning of a residential building?	7 M	20CE302.3	L2
3(b)	In any residential building, What are the essentials, which need consideration in grouping of dwelling unit	7 M	20CE302.3	L2
4(a)	Explain the different features of a king post roof truss	7 M	20CE302.4	L2
4(b)	Draw the working drawing of a Glazes door	7 M	20CE302.4	L2
5(a)	Draw the layout of a health centre or Doctor Clinic	7 M	20CE302.5	L2
5(b)	Explain the Principle of Planning a hospital	7 M	20CE302.5	L2

Part B (Long Answer Questions 1 x 28 = 28 Marks) – Answer any one among the following

No.	Questions (6 through 7)	Marks	Learning Outcome (s)	DoK
6(a)	Draw a neat sketch of partly paneled and glaze door of size 1.0 x 2.0 m	14 M	20CE302.4	L2
6(b)	Draw to a suitable scale, the section and elevation of a fully paneled double shuttered door	14 M	20CE302.4	L2
7	Draw the Plan and Elevation of the residential Building with the following dimensions. Assume suitable dimensions as minimum dimensions as BIS	28 M	20CE302.5	L2

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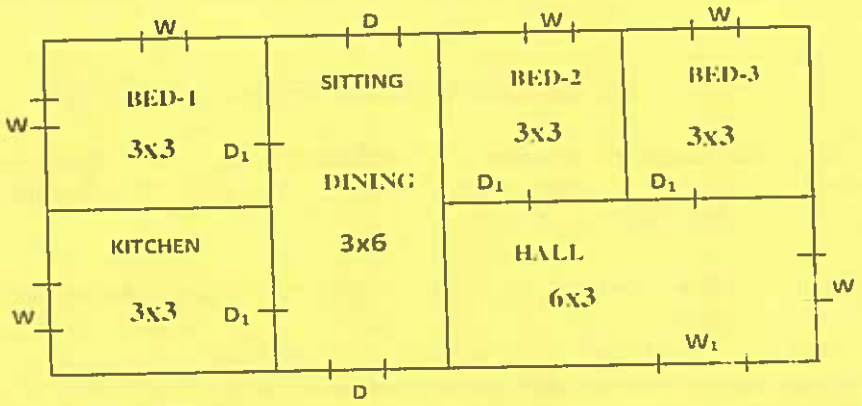

REFERENCE:-
D-1000X2000 mm; D_1-900X2000 mm; W-900X1200 mm; V_1-900X1000 mm; V-800X300 mm; All dimensions of rooms are e m m

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : S. Addalakshmi Designation : Asst. prof.
Organization : VRIT(A)
Academic Year : 2021-22
Semester : III
Curse Title : Mathematical Foundation for computer Science.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale _____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 3

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Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	CSE, CSE (AI & ML) & CSE (DS)			**Academic Year**	2021 - 2022
Course Code	20BSX16	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Mathematical Foundations for Computer Science**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Tautology and contradiction?	20BSX16.1	L1
2	Define subgroup	20BSX16.2	L2
3	Find the gcd of 615 and 1080, and find the integers x and y such that gcd(615, 1080)= 615x+1080y.	20BSX16.3	L1
4	Find the first 5 terms of the recurrence relation $a_n = a_{n-1} + a_{n-3}$, $a_0 = 1, a_1 = 2, a_2 = 0$	20BSX16.4	L2
5	Define complete Graph (Kn) and how many edges are in K6.	20BSX16.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Define contingency. Prove that $(\neg p \rightarrow \neg q) \Leftrightarrow (q \Leftrightarrow r)$ is contingency.	6M	20BSX16.1	L2
6 (b)	Show that $(p \rightarrow q) \rightarrow q \Leftrightarrow p \vee q$	6M	20BSX16.1	L3
	OR			
7 (a)	Without constructing the truthtable (i) Obtain the principal conjunctive normal form of $(\neg p \rightarrow r) \wedge (q \leftrightarrow p)$. (ii)Obtain the PDNF for $(P \wedge Q) \vee (\neg P \wedge R) \vee (Q \wedge R)$	6M	20BSX16.1	L2
7 (b)	For each of the sets of the premises,what relevant conclusion or conclusions can be drawn?Explain the rules of inference used to obtain each conclusion from the premises."Every student has an Internet account". " Homer does not have an Internet account". " Maggie has an Internet account."	6M	20BSX16.1	L3
8 (a)	Define Equivalence relation.Let X={1,2,3...7} and R= { <x,y> / x-y is divisible by 3}.Show that R is an equivalence relation.	6M	20BSX16.2	L3
8 (b)	Explain Hasse Diagram. Draw the Hasse Diagram of D_{24}	6M	20BSX16.2	L2
	OR			
9 (a)	Define inverse of a function and find the inverse of $f(x) = \frac{2x+3}{5}$, $f(x) = \frac{3x+4}{5}$ for all x in R	6M	20BSX16.2	L3
9 (b)	Show that the set $\{1, 2, 3, 4, 5\}$ is not a group under addition and multiplication modulo 6.	6M	20BSX16.2	L2
10 (a)	State and prove Euler's theorem. Give an example	6M	20BSX16.3	L2
10 (b)	Prove that for all integers a, b, c, (i) if a|b , then a|bc (ii) if a|b and b|c then a|c for all a,b,c integers	6M	20BSX16.3	L3
	OR			
11 (a)	State and prove Fermat's theorem	6M	20BSX16.3	L2
11 (b)	Define G CD, LCM and co primes .Find the prime factorization of 243, 125.	6M	20BSX16.3	L3
12 (a)	Find the explicit solution of the Fibonacci recurrence relation with	6M	20BSX16.4	L3

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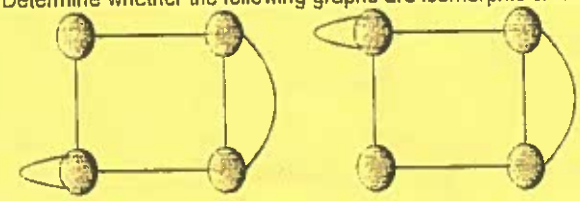
	$F_0 = 0, F_1 = 1.$			
12 (b)	Solve the recurrence relation $a_n = 4a_{n-1} - 4a_{n-2}$, for n ≥ 2with initial conditions $a_0 = 6, \text{and } a_1 = 8.$	6M	20BSX16.4	L2
	OR			
13 (a)	Find the solution to the recurrence relation $a_n = 6a_{n-1} - 11a_{n-2} + 6a_{n-3}$, with the initial conditions $a_0 = 2$, $a_1 = 5$, $a_2 = 15$	6M	20BSX16.4	L2
13 (b)	Find all the solutions of the recurrence relation $a_n - 2a_{n-1} + 2n^2$.	6M	20BSX16.4	L3
14 (a)	Explain about the bipartite and complete bipartite Graphs with diagrams	6M	20BSX16.5	L3
14 (b)	Determine whether the following graphs are isomorphic or not.  G1 G2	6M	20BSX16.5	L2
	OR			
15 (a)	Define Hamiltonian graph and draw a graph with six vertices which is Hamiltonian but not Eulerian?	6M	20BSX16.5	L2
15 (b)	Find minimal spanning tree using Kruskal's algorithm. Use a graph of your choice.	6M	20BSX16.5	L3

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE ✓ | EEE | ME | BS &H

Name of the Reviewer : Akash kumar Gupta Designation Asst. Prof
Organization : Raghu Institute of Technology(A)
Academic Year : 2021-22
Semester : III
Curse Title : Electronic Devices & Circuits

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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7. In general, how do you rate the quality and standard of questions? 3

NSRIT

Semester End Examination, January/February, 2022

Degree	B. Tech. (U. G.)	**Program**	EEE & ECE			**Academic Year**	2021 - 2022
Course Code	20EC302	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	III
Course	**Electronic Devices and Circuits**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is meant by depletion region?	20EC302.1	L1
2	List any two applications of LED	20EC302.2	L1
3	Define TUF and what is the TUF of Bridge rectifier	20EC302.3	L1
4	Why we call BJT as a current Controlled Device?	20EC302.4	L1
5	List the advantage and disadvantages of fixed bias method	20EC302.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	With neat diagram explain the principle and operation of P-N junction diode in forward and reverse bias	8M	20EC302.1	L2
6 (b)	Calculate the forward bias current of a Si diode when forward bias voltage of 0.4V is applied, the reverse saturation current is 1.17×10-9A and the thermal voltage is 25.2mV.	4M	20EC302.1	L2
	OR			
7 (a)	Derive the expression for Diffusion capacitance of a diode	7M	20EC302.1	L2
7 (b)	What is the effect of temperature on P-N junction diode?	5M	20EC302.1	L2
8 (a)	Explain the working of Zener diode in reverse bias condition with neat diagram.	6M	20EC302.2	L2
8 (b)	With the help of V-I characteristics, explain SCR operation.	6M	20EC302.2	L2
	OR			
9 (a)	A sinusoidal voltage whose Vm=12V is applied to half-wave rectifier. The diode may be considered to be ideal and RL=1.5 KΩ is connected as load. Find out peak value of current, RMS value of Current, DC value of current and Ripple factor.	6M	20EC302.2	L2
9 (b)	Derive the expression for Ripple factor for Full Wave Rectifier with L filter.	6M	20EC302.2	L3
10 (a)	Explain the operation of NPN Transistor with neat diagram	5M	20EC302.3	L2
10 (b)	Write the differences between CB, CE, and CC Configurations	7M	20EC302.3	L2
	OR			
11 (a)	Derive the relation between α and β	5M	20EC302.3	L2
11 (b)	Sketch a family of CE output characteristics for a transistor. Explain cutoff, active, saturation region	7M	20EC302.3	L2
12 (a)	Obtain an expression of stability factor for fixed bias	5M	20EC302.4	L2
12 (b)	Distinguish Thermal runaway and Thermal stability	7M	20EC302.4	L2
	OR			
13 (a)	With suitable expressions explain self bias of BJT	6M	20EC302.4	L2
13 (b)	Explain about Thermistor and Sensistor bias compensation techniques	6M	20EC302.4	L2
14 (a)	Draw the hybrid parameter equivalent circuit for an NPN common emitter transistor and explain.	8M	20EC302.5	L3
14 (b)	Explain the construction and working of Enhancement MOSFET.	4M	20EC302.5	L2
	OR			
15 (a)	With neat sketch, discuss about common source FET amplifier.	4M	20EC302.5	L3
15 (b)	Draw the hybrid parameter equivalent circuit for PNP common base transistor and explain.	8M	20EC302.5	L3

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Srinivasa Rao Designation : Asst. Prof
Organization : Vignan's Institute of Information Technology
Academic Year : 2021-2022
Semester : I
Curse Title : OOPs through C++

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions? 4

M. S. A

NSRIT

Semester End Examination, February 2022

Degree	B. Tech. (U. G.)	Program	CSE, CSE (AI & ML) & CSE (DS)			Academic Year	2021 - 2022
Course Code	20CS304	Test Duration	3 Hrs.	Max. Marks	70	Semester	III
Course	Object Oriented Programming through C++						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Write C++ code that reads two numbers from user and prints their sum.	20CS304.1	L2
2	Define an anonymous object.	20CS304.2	L1
3	List any two advantages of Inheritance.	20CS304.3	L1
4	What is a pure virtual function?	20CS304.4	L1
5	What is a list in C++ STL?	20CS304.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain the key concepts of Object-Oriented Programming.	6M	20CS304.1	L1
6 (b)	Define recursion. Explain with a suitable example.	6M	20CS304.1	L2
	OR			
7 (a)	Write a C++ program demonstrating the viability of new and delete operators for a single variable as well as an array.	7M	20CS304.1	L1
7 (b)	Explain the manipulators with suitable examples.	5M	20CS304.1	L2
8 (a)	How to define a class in C++? How to declare objects for the class? Give an example.	6M	20CS304.2	L2
8 (b)	Write a program for calculating the total marks and Grade of the 60 students in a class.	6M	20CS304.2	L1
	OR			
9 (a)	Explain the visibility of base class members for the access specifiers: private, protected, and public while creating the derived class and explain the syntax for creating derived class.	6M	20CS304.2	L2
9 (b)	Write a C++ program to exchange the values between two classes using friend functions.	6M	20CS304.2	L3
10 (a)	Explain about default and parameterized constructors with suitable examples.	6M	20CS304.3	L1
10 (b)	Write a C++ program to define three overloaded functions to swap two integers, swap two floats and swap two doubles.	6M	20CS304.3	L3
	OR			
11 (a)	State any two forms of inheritance. Give an example of each.	6M	20CS304.3	L1
11 (b)	Explain the syntax for passing arguments to base class constructors in multiple inheritances.	6M	20CS304.3	L3
12 (a)	How this pointer declared in C++?	4M	20CS304.4	L1
12 (b)	Explain Static Binding and Dynamic Binding.	8M	20CS304.4	L2
	OR			
13 (a)	What is a Virtual Function? Explain with an example.	6M	20CS304.4	L1
13 (b)	Explain the Exception Handling mechanism.	6M	20CS304.4	L2
14 (a)	Write the difference between Templates and Macros.	6M	20CS304.5	L2
14(b)	Write a program to swap two variables using a function template.	6M	20CS304.5	L3
	OR			
15	Explain briefly the three foundational items of standard template library.	12M	20CS304.5	L2

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : G. SRINIVASA RAO Designation ASSt Professor
Organization : LIET
Academic Year : 2021-22
Semester : II
Curse Title : PDEG VC

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

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6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent ✓ Good Satisfactory

8. General Remarks

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Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	Common to All			**Academic Year**	2021- 2022
Course Code	20BSX12	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	PARTIAL DIFFERENTIAL EQUATIONS AND VECTOR CALCULAS						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Form the PDE by eliminating arbitrary constants a and b from $z = ax + by + ab$	20BSX12.1	L1
2	Solve $(D - D^{1} - 2)(D - D^{1} + 1)z = 0.$	20BSX12.2	L2
3	Compute $\Gamma(4.5)$	20BSX12.3	L2
4	Find div $\bar{r}$ and curl $\bar{r}$	20BSX12.4	L1
5	Write the Statement of Stoke's Theorem	20BSX12.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Form PDE by eliminating " f " from $z = (x + y)f(x^2 - y^2)$	6M	20BSX12.1	L2
6 (b)	Solve $y^2p - xy\,q = x\,(z - 2y)$	6M	20BSX12.1	L3
	OR			
7 (a)	Solve $(\frac{p}{2} + x)^2 + (\frac{q}{2} + y)^2 = 1$	8M	20BSX12.1	L3
7 (b)	Solve $z = px + qy + \sqrt{p^2 + q^2 + 1}$	4M	20BSX12.1	L2
8 (a)	Solve($D^2 - DD')z = \sin x cos\, 2y.$	6M	20BSX12.2	L3
8 (b)	Solve $(D^2 - DD^{'} + D^{'} - 1)z = Cos(x + 2y)$	6M	20BSX12.2	L2
	OR			
9 (a)	$(D + D^{'} - 1)(D + 2D^{'} - 3)z = 4 + 3x + 6y$	6M	20BSX12.2	L2
9 (b)	Solve $y^3 \frac{\partial z}{\partial x} + x^2 \frac{\partial z}{\partial y} = 0$ by the method of separation variables	6M	20BSX12.2	L3
10 (a)	Prove that $\int_0^{\frac{\pi}{2}} \sqrt{cot\theta}\, d\theta = \frac{1}{2}\Gamma(\frac{1}{4})\Gamma(\frac{3}{4})$	6M	20BSX12.3	L3
10 (b)	Evaluate $\int_0^1 \int_0^1 \int_0^1 e^{x+y+z}\, dxdydz$	6M	20BSX12.3	L2
	OR			
11 (a)	Prove that $\beta(m,n) = \int_0^{\infty} \frac{x^{m-1}}{(1+x)^{m+n}} dx = \int_0^{\infty} \frac{x^{n-1}}{(1+x)^{n-1}} dx.$	6M	20BSX12.3	L3
11 (b)	Evaluate $\int_0^1 \int_0^{\sqrt{1+y^2}} \frac{dx\, dy}{1 + x^2 + y^2}$	6M	20BSX12.3	L2

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12 (a)	Find the Directional Derivative of the function $f = x^2 - y^2 + 2z^2$ at the point P= (1, 2, 3) in the direction of the line $\overline{PQ}$ where Q=(5,0,4).	6M	20BSX12.4	L3
12 (b)	Show that $(x^2 - yz)\,\bar{\imath} + (y^2 - zx)\,\bar{\jmath} + (z^2 - xy)\bar{k}$ is irrotational and hence find scalar potential	6M	20BSX12.4	L3
	OR			
13 (a)	If $\bar{F} = grad(x^3 + y^3 + z^3 - 3xyz)$ Find div $\bar{F}$ and curl $\bar{F}$	6M	20BSX12.4	L3
13 (b)	Prove that $\nabla^2 f(r) = f''(r) + \frac{2}{r} f'(r)$.	6M	20BSX12.4	L2
14	Verify Green's theorem for $\int_c [xy + y^2]dx + x^2\,dy$], where C is bounded by $y = x$ and $y = x^2$	12M	20BSX12.5	L3
	OR			
15	Verify Gauss divergence theorem for $\bar{F} = (x^2 - yz)\bar{\imath} + (y^2 - zx)\bar{\jmath} + (z^2 - xy)\bar{k}$ taken over the rectangle parallelepiped bounded by $0 \le x \le a$, $0 \le y \le b$, $0 \le z \le c$.	12M	20BSX12.5	L3

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Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : N.S.Kalyan Designation : Asst. Professor
Organization : LIET (A)
Academic Year : 2021-22
Semester : II
Curse Title : Engg. Drawing

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good ✓ Satisfactory

8. General Remarks


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Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	Common to EEE/ECE			**Academic Year**	2021 - 2022
Course Code	20ESX01	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	II
Course	**ENGINEERING DRAWING**						

Part A (Short Answer Questions 2 x 5 = 10 Marks)

No.	Questions (1 through 2)	Learning Outcome (s)	DoK
1	Construct a scale to measure up to 60 m if 1cm represents 5 m, find its RF and mark a distance 37 m on it	20ESX01.2	L1
2	Draw a pentagon of side 40 mm	20ESX01.4	L3

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (3 through 12)	Marks	Learning Outcome (s)	DoK
3 (a)	Draw a hyperbola having its two asymptotes passing through a point P at a distance of 36 mm from one asymptote and 30 mm from the other. Draw a normal and tangent at any convenient point	6M	20ESX01.1	L2
3 (b)	Construct a hexagon of side 35 mm by using general method	6M	20ESX01.1	L3
4 (a)	Draw the major axis of an ellipse is 100 mm long and the foci are at a distance of 16 mm from its ends. Draw the ellipse by concentric circles method	6M	20ESX01.1	L3
4 (b)	A 5 cm long line on map represents 1.5 metre length. Determine the RF and draw a scale long enough to measure up to 6 meters. Show a distance of 4.8 metres on it	6M	20ESX01.1	L2
5 (a)	A 75 mm long line PQ is inclined at 20° to the HP. The end P is 15 mm in front of the VP and 20 mm above the HP. Draw its projections	4M	20ESX01.2	L3
5 (b)	A line AB 75 mm long is inclined at 35° to the HP and 20° to VP. Its end A is in the HP and 45 mm in front of the VP. Draw its projections and determine traces	8M	20ESX01.2	L3
	OR			
6 (a)	Draw the following projection of points: I. A, 40 mm above HP and 30 mm in front of VP II. B, 30 mm above HP and 40 mm behind VP III. C, 25 mm below HP and 20 mm behind VP IV. D, is on both HP and VP	4M	20ESX01.2	L2
6 (b)	A 60 mm line AB, has an end P at 25 mm above the HP and 30 mm in front of VP. The line is inclined at 50° to HP and 40° to VP. Draw its projections	8M	20ESX01.2	L2
7 (a)	Draw the projections of a regular pentagon of 40 mm side, having one of its sides in the HP and its surface making an angle of 45° with the HP	6M	20ESX01.3	L2
7 (b)	Draw the projections of a circular lamina of 40 mm diameter having one of its sides in the VP and inclined at 30° to the VP	6M	20ESX01.3	L3
	OR			
8 (a)	Draw the projections of a 60° set square of 40 mm side and longer edge 100 mm one of its sides in the HP and its surface making an angle of 45° with the HP	6M	20ESX01.3	L2

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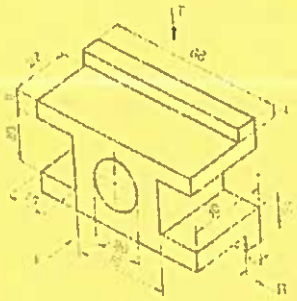
Visakhapatnam

8 (b)	Draw the projections of a regular hexagon of 40 mm side, having one of its sides in the HP and inclined at 60° to the V.P and its surface making an angle of 45° with the H.P	6M	20ESX01.3	L3
9 (a)	A square prism, side of base 30 mm and axis 50 mm long , has its axis inclined at 60° to HP its has an edge of its base in the HP and inclined at 45° to VP. Draw the projections	6M	20ESX01.4	L2
9 (b)	Draw the projection of a cone, base 70 mm diameter and axis 110 mm long, lying on HP. on one of its generators with axis parallel to the V.P	6M	20ESX01.4	L3
	OR			
10 (a)	A square prism, side of base 30 mm and axis 40 mm long , has its axis inclined at 60° to HP its has an edge of its base in the H.P and inclined at 45° to VP. Draw the projections	6M	20ESX01.4	L2
10 (b)	Draw the projections of a cone, base 75 mm diameter and axis 130 mm long, lying on the ground on one of its generators with the axis parallel to the VP	6M	20ESX01.4	L3
11	Draw top, front and side views of the isometric projection given in the figure 	12M	20ESX01.5	L4
	OR			
12	Draw an isometric view of a square prism having a base with a 45 mm side and a 65 mm long axis, resting on the HP. a) on its base with axis perpendicular to the HP, b) on its rectangular faces with axis perpendicular to the VP and c) on its rectangular face with axis parallel to the VP	12M	20ESX01.5	L4

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. P. Seetharam Designation : Assistant professor.
Organization : Lendi Institute of Engg & Technology
Academic Year : 2021-22
Semester : II
Curse Title : Applied Chemistry

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
2. Are the questions being very clear in easily understandable language without any sort of ambiguity?
   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
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   ✓ Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?
   Yes | ✓ No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)
7. In general, how do you rate the quality and standard of questions? 5

Commendable ✓ Excellent Good Satisfactory

8. General Remarks

P.W
Signature

NSRIT

Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20BSX23	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**Applied Chemistry**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define stereo regular polymer	20BSX23.1	L1
2	What is the concept of galvanic cell?	20BSX23.2	L1
3	Differentiate atomic orbital and molecular orbital.	20BSX23.3	L2
4	What is absorption spectrum?	20BSX23.4	L1
5	Write the concept of supramolecular system.	20BSX23.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain the preparation, properties and applications of Nylon-6,6	6M	20BSX23.1	L2
6 (b)	Differentiate between addition and condensation polymerization	6M	20BSX23.1	L2
	OR			
7 (a)	Describe the preparation, properties and applications of urea formaldehyde.	5M	20BSX23.1	L2
7 (b)	Explain the conduction mechanism and applications of polyacetylene and polypyrrole	7M	20BSX23.1	L2
8 (a)	What is Calomel? Explain the construction & working of lead – acid battery	5M	20BSX23.2	L2
8 (b)	Define conductometry. Discuss conductometric titration of strong acid vs weak base	7M	20BSX23.2	L2
	OR			
9 (a)	What is the concept of potentiometry? Discuss the applications of potentiometric titrations	6M	20BSX23.2	L2
9 (b)	What is fuel cell? Explain construction and working of Hydrogen-Oxygen fuel cell	6M	20BSX23.2	L2
10 (a)	What is bond order? Explain the molecular orbital energy level diagram of carbon monoxide molecule	7M	20BSX23.3	L2
10 (b)	Discuss the structure and geometry of methane and ethane	5M	20BSX23.3	L2
	OR			
11 (a)	Explain the salient features of crystal field splitting in octahedral and tetrahedral complexes	7M	20BSX23.3	L2
11 (b)	Write brief account on band theory of solids with the band diagrams	5M	20BSX23.3	L2
12 (a)	Explain the principle and applications of UV-visible spectroscopy.	5M	20BSX23.4	L2
12 (b)	Discuss principle and instrumentation of 1H-NMR spectroscopy.	7M	20BSX23.4	L2
	OR			

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13 (a)	Explain the principle and method of Gas Chromatography (GC) in the separation of gaseous and liquid mixtures	6M	20BSX23.4	L2
13 (b)	Discuss the applications of pH-metry and conductometry	6M	20BSX23.4	L2
14 (a)	Define supermolecular. Explain the synthesis of rotaxene	5M	20BSX23.5	L1
14 (b)	Explain the template synthesis of catenands	7M	20BSX23.5	L2
	OR			
15 (a)	Discuss the concept of supramolecular reactivity and catalysis	4M	20BSX23.5	L1
15 (b)	Write a note on: (i) molecular switches and (ii) Quantum Light Emitting Diodes (QLED)	8M	20BSX23.5	L2

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Visakhapatnam

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Sontyam, Vizag, Andhra Pradesh

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : B.SEETHA MAL Designation Assistant Professor
Organization : LIET
Academic Year : 21-22
Semester : II-II
Curse Title : BEEE

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 2 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent ✓ Good Satisfactory

8. General Remarks

Signature

NSRIT

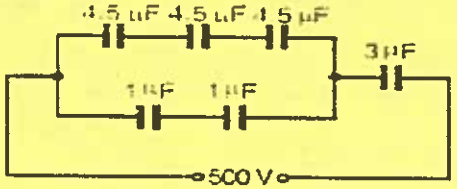
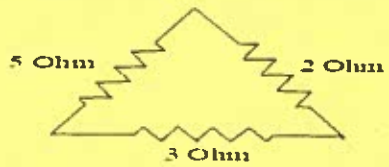
Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	CE/ME/CSE/CSM/CSD			**Academic Year**	2020 - 2021
Course Code	20ESX05	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**Basic Electrical and Electronics Engineering**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	State ohm's law	20ESX05.1	L2
2	Draw the torque-speed characteristics of separately excited D.C. motors	20ESX05.2	L1
3	Mention the applications of an alternator	20ESX05.3	L1
4	Why rating of the transformer is given in KVA?	20ESX05.4	L2
5	Draw the circuit diagram of a Bridge rectifier	20ESX05.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Find the impedance of series R-L-C circuit with R=100Ω, X_L=50Ω and X_C=20Ω	6M	20ESX05.1	L3
6 (b)	Calculate: i) The admittance Y ii) The conductance G and consisting of a resistor of 10 Ω in series with an inductor of 0.3 H, when the frequency is 50 Hz. In the above circuit	6M	20ESX05.1	L3
	OR			
	For the arrangement shown in Fig.7(a) below find: i) The equivalent capacitance of the circuit and ii) The voltage across a 4.5 μF capacitor			
7 (a)	 Fig.7(a)	6M	20ESX05.1	L3
7 (b)	 Fig.7(b) Convert the given delta circuit to star	6M	20ESX05.1	L3
8	Explain principle of operation and construction of DC generator	12M	20ESX05.2	L2
	OR			
9 (a)	Explain the operation of 3-point starter	6M	20ESX05.2	L2
9 (b)	Explain about Swinburne's test. What is its significance?	6M	20ESX05.2	L2
10	A 3-phase star connected alternator is rated at 100 kVA. On short-circuit a field current of 50 amp gives the full load current. The	12M	20ESX05.3	L3

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	e.m.f. generated on open circuit with the same field current is 1575 V/phase. Calculate the voltage regulation at (a) 0.8 power factor lagging, and (b) 0.8 power factor leading by synchronous impedance method. Assume armature resistance is 1.5 Ω			
	OR			
11 (a)	Explain principle of Operation of 3-Φ induction motor with neat sketches	6M	20ESX05.3	L2
11(b)	Explain Speed-Torque Characteristics of 3- Φ induction Motor with neat sketches	6M	20ESX05.3	L2
12(a)	With the help of diagram explain the principle of operation of transformer	6M	20ESX05.4	L2
12(b)	Determine the efficiency of a single phase 150 KVA transformer at 50% full load and 0.8 power factor lag if the copper loss at full load is 1600 watts and iron loss is 1400 watts	6M	20ESX05.4	L3
	OR			
13	Explain the procedure for conducting OC and SC test of a transformer and mention which type of losses can be determined by these tests	12M	20ESX05.4	L2
14 (a)	Explain characteristics of a Zener diode both in forward and revere bias	6M	20ESX05.5	L2
14(b)	Draw the circuit diagram of half wave rectifier and explain its operation	6M	20ESX05.5	L2
	OR			
15(a)	Explain the working of an OP-AMP Integrator with the aid of a neat sketch	6M	20ESX05.5	L2
15(b)	List out the parameters of ideal and practical OP-AMP	6M	20ESX05.5	L1

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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The Vision of the Institute
To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS &H

Name of the Reviewer :DR T Vinay Kumar Designation: Assistant Professor
Organization : NIT Warangal
Academic Year :2020-21
Semester : II
Curse Title : Network Analysis and Synthesis

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale _____5_____ (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale _____4.5_____ (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale _____4_____ (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale _____4.5_____ (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale _____4.5_____ (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale _____4.5_____ (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

~~Commendable~~ Excellent ~~Good~~ ~~Satisfactory~~

8. General Remarks

Signature

NSRIT

Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	CSE/CSM/CSD			**Academic Year**	2021 - 2022
Course Code	20CS201	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	II
Course	**Data Structures using 'C'**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Abstract Data Type (ADT)	20CS201.1	L1
2	Define Single Linked List and Double Linked List	20CS201.2	L1
3	List any two applications of Queue	20CS201.3	L1
4	State the properties of Binary Trees	20CS201.4	L1
5	What is Spanning Tree?	20CS201.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Explain the classifications of Data Structure with example	6	20CS201.1	L2
6 (b)	Explain the Time Complexity and Space Complexity	6	20CS201.1	L2
	OR			
7 (a)	Explain algorithm for Linear Search with an example	4	20CS201.1	L2
7 (b)	Write the selection sort algorithm and apply it to sort the following elements 50, 12, 84, 58, 26, 8, 11	8	20CS201.1	L3
8 (a)	Explain the representation of Linked List in Memory	4	20CS201.2	L2
8 (b)	Explain with an algorithm to insert and delete elements using Single Linked List	8	20CS201.2	L2
	OR			
9 (a)	Explain the applications of list with examples	6	20CS201.2	L2
9 (b)	Explain Sparse Matrix Representation using Linked List	6	20CS201.2	L2
10 (a)	Explain the Array representation with Linked List representation	6	20CS201.3	L2
10 (b)	Explain the applications of Stack	6	20CS201.3	L2
	OR			
11 (a)	Write an algorithm to perform Circular Queue and Dequeue	6	20CS201.3	L2
11 (b)	With a necessary algorithm, explain the implementation of Queue using arrays	6	20CS201.3	L2
12 (a)	Explain the types of Tree Traversal with example	6	20CS201.4	L2
12 (b)	Explain the Binary Tree and Binary Search Tree	6	20CS201.4	L2
	OR			
13	Construct a binary search tree by inserting 30, 10, 4, 19, 62, 35, 28, 73 into an initially empty tree. Show the results of splaying the nodes 4 and 62 one after the other of the constructed tree	12	20CS201.4	L3
14 (a)	Compare Breadth First Search with Depth First Search	6	20CS201.5	L2
14 (b)	Explain Depth First Search with examples	6	20CS201.5	L2
	OR			
15	Explain Prim's and Kruskal's algorithm. Find the minimum spanning tree with the sample graph using anyone of the algorithms	12	20CS201.5	L2

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Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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Dept.: Dept.: Civil Engg. | CSE | CSE (AI & ML) | CSE (DS) | ECE | EEE | ME | BS & H

Name of the Reviewer : P. Santosh
Organization : Axiom IO
Academic Year : 2020-2021
Semester : II
Curse Title : PPSUC

Designation : H.R

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

   Commendable Excellent Good Satisfactory

8. General Remarks

P. Santosh
Signature

NSRIT

Semester End Supplementary Examination, October, 2021

Degree	B. Tech. (U. G.)	Program	Common to All			Academic Year	2020 - 2021
Course Code	20ESX02	Test Duration	3 Hrs.	Max. Marks	70	Semester	II
Course	PROGRAMMING FOR PROBLEM SOLVING USING 'C'						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Algorithm	20ESX02.1	L1
2	Write the syntax of switch statement in C	20ESX02.2	L1
3	Define an array and give an example	20ESX02.3	L1
4	What are Preprocessor directives? Give examples	20ESX02.4	L1
5	List various text file opening modes	20ESX02.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Write the algorithm and corresponding flowchart to find the given number is Prime number or not	6M	20ESX02.1	L3
6 (b)	Explain all the data types with their ranges, examples	6M	20ESX02.1	L2
	OR			
7 (a)	Explain different categories of operators and their precedence	8M	20ESX02.1	L2
7 (b)	Write a program in C to find the prime numbers within a range of numbers. Sample Input/ Output: Input starting number of range: 1 Input ending number of range : 50 Expected Output : The prime number between 1 and 50 are :2 3 5 7 11 13 17 19 23 29 31 37 41 43 47	4M	20ESX02.2	L3
8 (a)	Write a program in C to display the multiplication table of a given integer	4M	20ESX02.2	L2
8 (b)	Describe the loop control statements in C	8M	20ESX02.2	L3
	OR			
9 (a)	Write a program to display week days for a given digit (1-7) using Switch case	6M	20ESX02.2	L3
9 (b)	Describe any three storage classes	6M	20ESX02.2	L1
10 (a)	Write C program that uses both recursive and non-recursive functions to find the sum of n natural numbers	6M	20ESX02.3	L2
10 (b)	Write C program to read a list of elements into an array and print the reverse of the list.	6M	20ESX02.3	L2
	OR			
11 (a)	Write a program in C to check whether a number is a prime number or not using the function. Example : Input a positive number : 5 Expected Output : The number 5 is a prime number	4M	20ESX02.3	L2
11 (b)	Explain built-in string handling functions	8M	20ESX02.3	L2
12 (a)	What are pointers? Describe pointer arithmetic with examples	6M	20ESX02.4	L2
12 (b)	Explain call by reference mechanism with an example program	6M	20ESX02.4	L2
	OR			
13	Compare the differences between structure and union. Explain usage of structure in terms of definition, declaration and accessing members with syntax and example	12M	20ESX02.4	L2

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14 (a)	Describe file handling functions	8M	20ESX02.5	L2
	Write a C program to read a text file "sample.txt" and print the following. a) Substring of N characters from the position l b) Reverse order of substring of N characters produced in a	4M	20ESX02.5	L2
	OR			
15 (a)	Describe pre-processor directives	6M	20ESX02.5	L2
15 (b)	Write a program for adding two Integers and display the sum by taking input through command line arguments	6M	20ESX02.5	L2

G. Kalyani
Controller of Examinations
NSTRI (A)
Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE ✓ | EEE | ME | BS &H

Name of the Reviewer : S.Azad Designation : Asst. Prof
Organization :
Academic Year : LIET
Semester : 2021-22
Curse Title : PECS.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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7. In general, how do you rate the quality and standard of questions?

Commendable ✓ Excellent Good Satisfactory

8. General Remarks

Signature

NSRIT

Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20EC201	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	II
Course	**Principles of Electronics & Communication Systems**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Fermi level	20EC201.1	L1
2	What are the Requirements of an Ideal OP – Amplifier?	20EC201.2	L1
3	What is the need for modulation and list types of modulation?	20EC201.3	L1
4	Define Flattop Sampling	20EC201.4	L1
5	Define numerical aperture	20EC201.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Describe the electrical properties of semiconductors	6M	20EC201.1	L1
6 (b)	State and explain the Ohm's and Kirchhoff's Laws with diagrams	6M	20EC201.1	L2
	OR			
7 (a)	Explain the drift and diffusion currents of a semiconductor	6M	20EC201.1	L2
7 (b)	Explain about mobility and conductivity in semiconductor materials	6M	20EC201.1	L2
8 (a)	Explain the basic operation of PN diode and transistor	6M	20EC201.2	L2
8 (b)	Explain the operation of differential amplifier with diagram	6M	20EC201.2	L1
	OR			
9 (a)	List and explain the characteristics of an ideal op-amp	6M	20EC201.2	L1
9 (b)	Explain basic idea of common mode gain and difference gain	6M	20EC201.2	L2
10 (a)	Explain applications of AM	6M	20EC201.3	L1
10 (b)	Explain the elements of communication system	6M	20EC201.3	L2
	OR			
11 (a)	Compare analog, digital and discrete signals	6M	20EC201.3	L2
11 (b)	Explain frequency modulation with relevant expression and signal diagram	6M	20EC201.3	L1
12 (a)	Explain the principle and operation of pulse code modulation with block diagram	6M	20EC201.4	L2
12 (b)	With a neat sketch, explain the principle and operation of BASK	6M	20EC201.4	L2
	OR			
13 (a)	Explain the generation FSK with signal diagram	6M	20EC201.4	L2
13(b)	Explain about TDM with diagram	6M	20EC201.4	L2
14(a)	Draw and explain the working principle Wavelength Division Multiplexing (WDM)	6M	20EC201.5	L2
14 (b)	Explain about LASER and LED optical transmitters	6M	20EC201.5	L2
	OR			
15(a)	Explain the working principle of a Cellular Telephone system with diagram	6M	20EC201.5	L2
15(b)	Explain GSM architecture	6M	20EC201.5	L2

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NSRIT (A)
Visakhapatnam

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : N.S.K.Murthy Designation : Asso. Professor
Organization : LIET (A)
Academic Year : 2021-22
Semester : II
Curse Title : EM

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 3 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

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Commendable Excellent Good Satisfactory

8. General Remarks

Signature

NSRIT

Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	CE, EEE & ME			**Academic Year**	2021 - 2022
Course Code	20ESX04	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**ENGINEERING MECHANICS**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Two forces of magnitude 50 kN and 80 kN are acting on a particle, such that the angle between the two is 135°. If both the forces are acting away from the particle, calculate the resultant and find its direction	20ESX04.1	L1
2	Define coefficient of static friction	20ESX04.2	L1
3	State parallel axis theorem	20ESX04.3	L2
4	Differentiate between rectilinear and curvilinear motion	20ESX04.4	L1
5	Write impulse-momentum equation	20ESX04.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	A string ABCD, attached to two fixed points A and D has equal weights of 1000 N attached to it at B and C. The weights rest with the portions AB and CD inclined at angles 30° and 60° respectively, to the vertical as shown in Figure 1. Find the tension in the portions AB, BC and CD of the string, if the inclination of the portion BC with the vertical is 120°	12M	20ESX04.1	L2

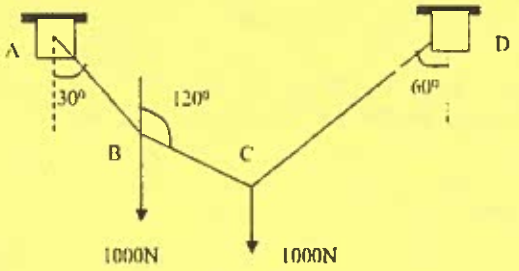

Figure 1

OR

7	Members OA, OB and OC form a three-member space truss. A weight of 10 kN is suspended at the joint 'O' as shown in Figure 2. Determine the magnitude and nature of forces in each of the three members of the truss	12M	20ESX04.1	L2

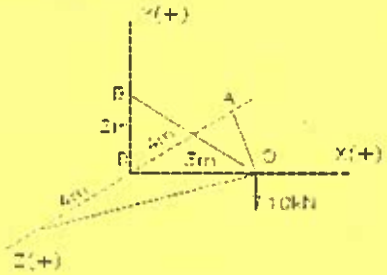

Figure 2

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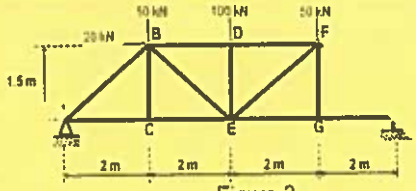
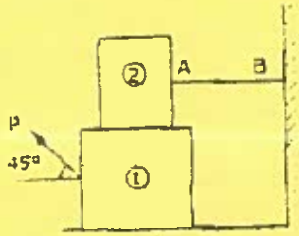
8	Determine the force in members DF, EF and EG of the truss shown in Figure 3  Figure 3	12M	20ESX04.2	L3
	OR			
9	Block (2) rests on block (1) and is attached by a horizontal rope AB to the wall as shown in Figure 4. What force P is necessary to cause motion of block (1) to impend? The co-efficient of friction between the blocks is ¼ and between the floor and block (1) is 1/3. Mass of blocks (1) and (2) are 14 kg and 9 kg respectively.  Figure 4	12M	20ESX04.2	L2
10	Determine the moment of inertia of the Tee section shown in Figure 5, about the horizontal and vertical centroidal axes with the following dimensions • Flange 60 mm x 8 mm • Web 50 mm x 8 mm  Figure 5	12M	20ESX04.3	L3
	OR			
11	Locate the centroid of the section shown in the Figure 6.  Figure 6	12M	20ESX04.3	L3

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12	A train is travelling from A to D along the track shown in Figure 7. Its initial velocity at A is zero. The train takes 5 min to cover the distance AB, 2250 m length and 2.5 minutes to cover, the distance BC, 3000 m in length, on reaching the station C, the brakes are applied and the train stops 2250 m beyond, at D i. Find the retardation on CD, ii. the time it takes the train to get from A to D, and iii. its average speed for the whole distance.	12M	20ESX04.4	L3

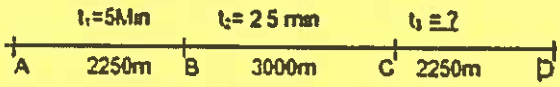

Figure 7

OR

13	A soldier fires a bullet at an angle of 30° (upward from the horizontal) from his position on hill to strike a target which is 61m lower than the position of the soldier. The initial velocity of the bullet is 91.5m/s. Calculate, i. The maximum height to which the bullet will rise above the horizontal ii. The actual velocity with which it will hit the target iii. The total time required for the flight of the bullet	12M	20ESX04.4	L3
14 (a)	A body weighing 300 N is pushed up a 30° plane by a 400 N force acting parallel to the plane. If the initial velocity of the body is 1.5 m/sec and coefficient of kinetic friction is μ = 0.2, what velocity will the body have after moving 6 m? Use work-energy method.	6M	20ESX04.5	L3
14 (b)	In a police investigation of tyre marks, it was concluded that a car while in motion along a straight level road skidded for a total of 60m after the brakes were applied. If the coefficient of friction between the tyres and the pavement is estimated as 0.5, what was the probable speed of the car just before the brakes were applied? Use work-energy method.	6M	20ESX04.4	L3

OR

15	Two weights 80 N and 20 N are connected by a thread and move along a rough horizontal plane under the action of a force 40 N, applied to the first weight of 80 N as shown in Figure 8. The co-efficient of friction between the sliding surfaces of the weight and the plane is 0.3. Determine the velocity of the system after 2 sec. Also calculate the tension in the string using impulse-momentum equation.	12M	20ESX04.5	L3

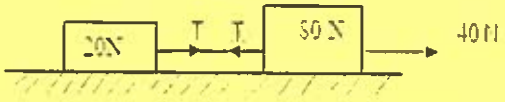

Figure 8

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Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Vizag, Andhra Pradesh

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The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Sreenivasulu Designation Asst. professor
Organization : LIET
Academic Year : 2021-22
Semester : II
Curse Title : Python Programming

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

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   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable ✓ Excellent Good Satisfactory

8. General Remarks

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Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	EEE			**Academic Year**	2021 - 2022
Course Code	20CS403	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**Python Programming**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Write about print() and input() functions	20CS403.1	L1
2	What is a namespace?	20CS403.2	L1
3	Write about Anonymous function	20CS403.3	L1
4	Define polymorphism in python	20CS403.4	L1
5	What is SciPy?	20CS403.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	What are different applications of Python? Give examples	4M	20CS403.1	L1
6 (b)	List out operators. Explain the following operators with example i. Comparison ii. Logical iii. Membership	8M	20CS403.1	L2
	OR			
7 (a)	Discuss about type conversion and expressions with suitable examples	6M	20CS403.1	L2
7 (b)	Write a Python program to demonstrate simple calculator using arithmetic operators	6M	20CS403.1	L3
8 (a)	Describe Python iterative statements with examples	6M	20CS403.2	L2
8 (b)	Write a Python program to find the GCD of two numbers	6M	20CS403.2	L3
	OR			
9 (a)	Explain about data encryption in python	5M	20CS403.2	L2
9 (b)	Discuss about operations on Lists in Python with examples	7M	20CS403.2	L2
10 (a)	Explain about default and keyword arguments.	6M	20CS403.3	L2
10 (b)	What is recursion? Explain its advantages and limitations with suitable example	6M	20CS403.3	L3
	OR			
11 (a)	Discuss in detail about modules in Python	6M	20CS403.3	L2
11 (b)	Write a brief note on PIP. Explain installing packages via PIP	6M	20CS403.3	L1
12 (a)	Define file. Write a Python program to copy the contents of a file to another file	6M	20CS403.4	L3
12 (b)	Write a Python program to demonstrate inheritance with a suitable example	6M	20CS403.4	L3
	OR			
13 (a)	Demonstrate read(), readline() and readlines() with syntax and examples	6M	20CS403.4	L2
13 (b)	Write about OOPS concepts in detail	6M	20CS403.4	L2
14 (a)	Explain in detail about canvas() and frame() with syntax	6M	20CS403.5	L2
14 (b)	What is Pandas? Write its features & applications	6M	20CS403.5	L3
	OR			
15 (a)	Explain in detail about ListBox() and checkButton() with syntax	6M	20CS403.5	L2
15 (b)	What is NumPy? Write its features & applications	6M	20CS403.5	L2

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Sontyam, Vizag, Andhra Pradesh

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : Dr. G V Nagesh Designation : Asst Professor
Organization : LIET (KD) VZM
Academic Year : 20-21
Semester : II
Curse Title : Engineering Physics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

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7. In general, how do you rate the quality and standard of questions? 4

Commendable Excellent Good Satisfactory

8. General Remarks

Signature

NSRIT

Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	CE/ME			**Academic Year**	2021 - 2022
Course Code	20BSX31	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**Engineering Physics**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Compare half wave plate and quarter wave plate	20BSX31.1	L2
2	Compare 3 level and 4 level pumping systems	20BSX31.2	L2
3	Define Orientation Polarization	20BSX31.3	L1
4	Define Magnetostriction effect	20BSX31.4	L1
5	Define Coordination number	20BSX31.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6	Define Interference. Discuss in detail the case of interference by reflection in thin films with the relevant ray diagrams	12M	20BSX31.1	L2
	OR			
7	Discuss in detail the Fraunhofer diffraction due to single slit	12M	20BSX31.1	L2
8 (a)	Compare Ruby LASER and He – Ne LASER	6M	20BSX31.2	L2
8 (b)	Discuss any three applications of LASER	6M	20BSX31.2	L2
	OR			
9 (a)	Compare Step index and Graded index optical fibers	6M	20BSX31.2	L2
9 (b)	Discuss any three applications of Optical fibers	6M	20BSX31.2	L2
10 (a)	Define (i) Magnetic dipole moment (ii) Magnetic susceptibility and (iii) Magnetic permeability	6M	20BSX31.3	L1
10 (b)	Elaborately discuss the Hysteresis curve exhibited by Ferromagnetic materials	6M	20BSX31.3	L2
	OR			
11 (a)	Define (i) Dielectric Polarization (ii) Polarizability and (iii) Dielectric constant	6M	20BSX31.3	L1
11 (b)	Compute Clausius – Mossoti relation and discuss its significance	6M	20BSX31.3	L2
12 (a)	Define (i) Echo (ii) Reverberation and (iii) Reverberation time	6M	20BSX31.4	L1
12 (b)	Discuss in detail a method of determining absorption coefficient	6M	20BSX31.4	L2
	OR			
13 (a)	Define (i) Ultrasonics and (ii) Non-Destructive Testing	4M	20BSX31.4	L1
13 (b)	Discuss in detail the production of Ultrasonics by Magnetostriction method	8M	20BSX31.4	L2
14 (a)	Compute the expression of Bragg's law with the relevant ray diagram	6M	20BSX31.5	L2
14 (b)	Discuss Laue method with relevant sketch	6M	20BSX31.5	L2
	OR			
15 (a)	Compute the expression for the interplanar distance in cubic system	6M	20BSX31.5	L2
15 (b)	What are miller indices of the planes of a crystal?	6M	20BSX31.5	L2

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- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H ✓

Name of the Reviewer : Dr. G V Nagesh Designation : Asst Professor
Organization : CIET V2M
Academic Year : 20-21
Semester : II
Curse Title : Applied Physics

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 5 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

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Commendable Excellent Good Satisfactory

8. General Remarks

Signature

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Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021 - 2022
Course Code	20BSX33	**Test Duration**	3 Hrs.	Max. Marks	70	**Semester**	II
Course	**Applied Physics**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	What is resolving power of grating?	20BSX33.1	L1
2	Define spontaneous and Stimulated emission of radiation	20BSX33.2	L1
3	Mention any two applications of dielectrics.	20BSX33.3	L2
4	Write the expressions for time Independent and time dependent wave equations.	20BSX33.4	L2
5	What are the applications of Hall Effect?	20BSX33.5	L2

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Obtain the condition for obtaining principal maxima in a single slit diffraction	8M	20BSX33.1	L2
6 (b)	What is double refraction? Explain it in Calcite crystal	4M	20BSX33.1	L2
	OR			
7 (a)	Derive the expressions for diameters of bright and dark fringes in Newton's rings	8M	20BSX33.1	L2
7 (b)	Discuss the resolving power of diffraction grating.	4M	20BSX33.1	L2
8 (a)	Define acceptance angle. Derive an expression for acceptance angle of an optical fibre.	8M	20BSX33.2	L2
8 (b)	What are Einstein coefficients? Derive a relation between them.	4M	20BSX33.2	L2
	OR			
9 (a)	Explain the construction and working of He-Ne laser with neat diagram.	8M	20BSX33.2	L2
9 (b)	Explain the light propagation through graded index and step index fibres.	4M	20BSX33.2	L2
10 (a)	What is ionic polarization? What is the expression for ionic polarizability.	3M	20BSX33.3	L2
10 (b)	Classify the magnetic materials.	9M	20BSX33.3	L2
	OR			
11 (a)	What are hard and soft magnetic materials? Give their characteristic properties and applications.	5M	20BSX33.3	L2
11 (b)	Derive the Classius-Mosotti relation.	7M	20BSX33.3	L2
12 (a)	Explain the phenomenon of electrical conductivity of metals on the basis of quantum free electron model.	8M	20BSX33.4	L2
12 (b)	Derive an expression for de-Broglie wavelength of matter waves.	4M	20BSX33.4	L2
	OR			
13(a)	Derive the Schrodinger's time independent wave equation for the motion of a particle.	8M	20BSX33.4	L2
13(b)	What are the shortcomings of classical free electron theory?	4M	20BSX33.4	L2
14 (a)	Derive an expression for effective mass of an electron moving in energy bands of a solid. Show that it varies with the wave vector.	9M	20BSX33.5	L2
14 (b)	What is a hole? List out the properties of a hole.	3M	20BSX33.5	L2
	OR			
15 (a)	Discuss Kronig - Penney model for the motion of an electron in periodic potential.	9M	20BSX33.5	L2
15 (b)	Distinguish intrinsic and extrinsic semiconductors.	3M	20BSX33.5	L2

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Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : M. Sriramulu Designation : Asst. professor
Organization : LIET
Academic Year : 2021-2022
Semester : II
Curse Title : ds using c

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

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Semester End Examination, Sept./Oct., 2021

Degree	B. Tech. (U. G.)	**Program**	Common to EEE/ECE			**Academic Year**	2020 - 2021
Course Code	20ESX01	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	II
Course	ENGINEERING DRAWING						

Part A (Short Answer Questions 2 x 5 = 10 Marks)

No.	Questions (1 through 2)	Learning Outcome (s)	DoK
1	Construct a scale to measure up to 50 m if 1cm represents 4 m, find its RF and mark a distance 37 m on it	20ESX01.2	L1
2	Draw a pentagon of side 30 mm	20ESX01.4	L3

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (3 through 12)	Marks	Learning Outcome (s)	DoK
3 (a)	Draw a hyperbola having its two asymptotes passing through a point P at a distance of 30 mm from one asymptote and 36 mm from the other. Draw a normal and tangent at any convenient point	6M	20ESX01.1	L2
3 (b)	Construct a hexagon of side 25 mm by using general method	6M	20ESX01.1	L3
4 (a)	Draw the major axis of an ellipse is 110 mm long and the foci are at a distance of 15 mm from its ends. Draw the ellipse by concentric circles method	6M	20ESX01.1	L3
4 (b)	A 4 cm long line on map represents 1.5 metre length. Determine the RF and draw a scale long enough to measure up to 6 meters. Show a distance of 4.6 metres on it	6M	20ESX01.1	L2
5 (a)	A 70 mm long line PQ is inclined at 30° to the HP. The end P is 15 mm in front of the VP and 25 mm above the HP. Draw its projections	4M	20ESX01.2	L3
5 (b)	A line AB 75 mm long is inclined at 45° to the HP and 30° to VP. Its end A is in the HP and 40 mm infront of the VP. Draw its projections and determine traces	8M	20ESX01.2	L3
	OR			
6 (a)	Draw the following projection of points: I. A, 30 mm above HP and 20 mm infront of VP II. B, 20 mm above HP and 40 mm behind VP III. C, 20 mm below HP and 30 mm behind VP IV. D, is on both HP and VP	4M	20ESX01.2	L2
6 (b)	A 60 mm line AB, has an end P at 25 mm above the HP and 30 mm in front of VP. The line is inclined at 50° to HP and 40° to VP. Draw its projections	8M	20ESX01.2	L2
7 (a)	Draw the projections of a regular pentagon of 30 mm side, having one of its sides in the HP and its surface making an angle of 45° with the HP	6M	20ESX01.3	L2
7 (b)	Draw the projections of a circular lamina of 50 mm diameter having one of its sides in the VP and inclined at 30° to the VP	6M	20ESX01.3	L3
	OR			
8 (a)	Draw the projections of a 60° set square of 30 mm side and longer edge 120 mm one of its sides in the HP and its surface making an angle of 45° with the HP	6M	20ESX01.3	L2

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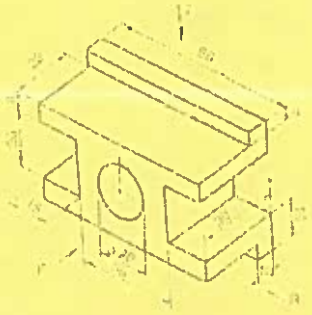
8 (b)	Draw the projections of a regular hexagon of 30 mm side, having one of its sides in the HP and inclined at 60° to the V.P and its surface making an angle of 45° with the H.P	6M	20ESX01.3	L3
9 (a)	A square prism, side of base 30 mm and axis 50 mm long , has its axis inclined at 60° to HP its has an edge of its base in the HP and inclined at 45° to VP. Draw the projections	6M	20ESX01.4	L2
9 (b)	Draw the projection of a cone, base 75 mm diameter and axis 100 mm long, lying on HP. on one of its generators with axis parallel to the V.P	6M	20ESX01.4	L3
	OR			
10 (a)	A square prism, side of base 30 mm and axis 50 mm long , has its axis inclined at 60° to HP its has an edge of its base in the H.P and inclined at 45° to VP. Draw the projections	6M	20ESX01.4	L2
10 (b)	Draw the projections of a cone, base 65 mm diameter and axis 120 mm long, lying on the ground on one of its generators with the axis parallel to the VP	6M	20ESX01.4	L3
11	Draw top, front and side views of the isometric projection given in the figure 	12M	20ESX01.5	L4
	O R			
12	Draw an isometric view of a square prism having a base with a 40 mm side and a 60 mm long axis, resting on the HP. a) on its base with axis perpendicular to the HP, b) on its rectangular faces with axis perpendicular to the VP and c) on its rectangular face with axis parallel to the VP	12M	20ESX01.5	L4

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NSRIT

Semester End Examination, Sept./Oct., 2021

Degree	B. Tech. (U. G.)	Program	CSE,CSM & CSD			Academic Year	2020 - 2021
Course Code	20EC203	Test Duration	3 Hrs.	Max. Marks	70	Semester	II
Course	Digital logic Design						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Convert $(0.625)_{10}$ decimal number to binary number $(?)_2$ using successive multiplication method	20EC203.1	L3
2	State the absorption law of Boolean algebra	20EC203.2	L1
3	Give the general procedure for converting a Boolean expression in to multilevel NAND diagram?	20EC203.3	L1
4	What are the three types of fundamental PLDS?	20EC203.4	L1
5	What is race around condition?	20EC203.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Convert the given binary 1010110 to gray code	6M	20EC203.1	L2
6 (b)	Convert the following: (i) 57_{10} to binary (ii) 743_8 to binary (iii) $A9B_{16}$ to binary	6M	20EC203.1	L2
	OR			
7 (a)	Convert $(567.1875)_{10}$ into hexadecimal	4M	20EC203.1	L2
7 (b)	Design an 8421 to gray code converter	8M	20EC203.1	L2
8 (a)	Develop the given function Y (M, N, O, P) = Σ_m (0, 2, 4, 6, 9, 13) Draw the K-map and Implement the simplified expression using basic gates	6M	20EC203.2	L2
8 (b)	Analyze the basic rules (laws) that are used in Boolean expressions with few examples	6M	20EC203.2	L2
	OR			
9 (a)	Simplify the following Boolean expression in i) SOP using Karnaugh map AC'+B'D+A'CD+ABCD	6M	20EC203.2	L2
9 (b)	Simplify the following Boolean expression in ii) POS using Karnaugh map AC'+B'D+A'CD+ABCD	6M	20EC203.2	L2
10 (a)	Explain how a full adder can be built using two half adders	6M	20EC203.3	L6
10 (b)	Design a 4-bit carry full adder circuit	6M	20EC203.3	L6
	OR			
11 (a)	Using 8 to 1 multiplexer, realize the Boolean function T = f(w, x, y, z) = Σ(0,1,2,4,5,7,8,9,12,13)	8M	20EC203.3	L6
11 (b)	Distinguish between a combinational logic circuit and a sequential logic circuit	4M	20EC203.3	L6
12 (a)	Show and implement the following function using a PROM F(w,x,y,z)= Σ m(1,8,9,15) G(w,x,y,z)= Σ m(0,1,2,3,4,5,7,8,10,11,12,13,14,15)	6M	20EC203.4	L2
12 (b)	Explain the functions of JK flip flop	6M	20EC203.4	L2

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	OR			
13 (a)	Implement the following Boolean function using 3×4×2 PLA, $F1(x, y, z) = \Sigma (0, 1, 3, 5)$ and $F2(x, y, z) = \Sigma (3, 5, 7)$.	6M	20EC203.4	L3
13 (b)	Realize a JK flip flop using SR flip flop	6M	20EC203.4	L3
14 (a)	Explain in detail SR latch using NAND	6M	20EC203.5	L2
14 (b)	Explain in detail SR latch using NOR	6M	20EC203.5	L3
	OR			
15 (a)	Convert the SR Flip Flop to T Flip Flop	6M	20EC203.5	L3
15 (b)	Convert the JK Flip Flop to D Flip Flop	6M	20EC203.5	L3

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Preamble: This feedback form AC 23 is intended to receive feedback on the quality of questions to ensure that the intended learning outcomes in terms Knowledge, Understanding and Skill are assessed. Also this form helps us to improve the quality of the questions that appear in the assessment instrument.

The Vision of the Institute
To promote societal empowerment and become an institution of excellence in the field of engineering education and research.

The Mission of the Institute
- To develop the students into outstanding professionals through innovative Teaching-Learning process.
- To uphold research through long term Academia-Industry interaction.
- To inculcate ethical standards and moral values.

Dept.: Civil Engg. | CSE | ECE | EEE | ME | BS &H

Name of the Reviewer : K. Praveen kumar Yadav Designation : Asst. Prof.
Organization : L.I.E.T
Academic Year : 2021-22
Semester : II
Curse Title : NA & S.

1. Are the questions being relevant to the assessment of Course Outcomes as well as to understand the mastery of the learners on that course of study?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

2. Are the questions being very clear in easily understandable language without any sort of ambiguity?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

3. Are the questions being crisp and concise and omits irrelevant information that reduces the students' question response time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

4. Do you observe any of the questions that has less scope to assess the intended knowledge and skill?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

5. Are the questions being addressing appropriate cognitive levels of Revised Bloom's Taxonomy (RBT) that facilitates critical thinking and problem-solving skills?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

6. Are the questions being single dimensional avoiding multiple ideas to evaluate one response at a time?

   Yes | No. If yes, please rate it on a five-point scale 4 (5: High to 1: Low)

7. In general, how do you rate the quality and standard of questions?

Commendable Excellent Good ✓ Satisfactory

8. General Remarks

Signature

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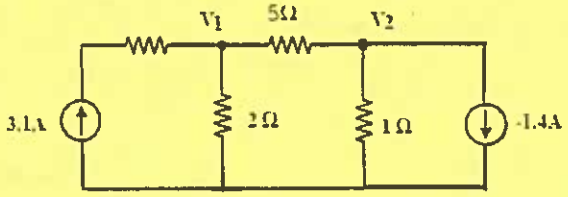
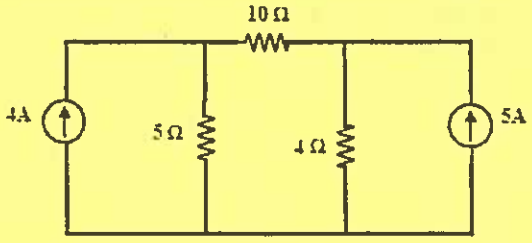
Supplementary Examination, Dec., 2021/Jan., 2022

Degree	B. Tech. (U. G.)	**Program**	ECE			**Academic Year**	2021- 2022
Course Code	20EE201	**Test Duration**	3 Hrs.	**Max. Marks**	70	**Semester**	II
Course	**Network Analysis and Synthesis**						

Part A (Short Answer Questions 5 x 2 = 10 Marks)

No.	Questions (1 through 5)	Learning Outcome (s)	DoK
1	Define Kirchhoff's Law's(KCL & KVL)	20EE201.1	L1
2	Write the limitations of super position theorem	20EE201.2	L1
3	Define Transient circuit and Write the conditions for Transient	20EE201.3	L1
4	Define quality factor and write the quality factor expressions for series and parallel Resonance circuits	20EE201.4	L1
5	Write the symmetry conditions for Y and Z parameters	20EE201.5	L1

Part B (Long Answer Questions 5 x 12 = 60 Marks)

No.	Questions (6 through 15)	Marks	Learning Outcome (s)	DoK
6 (a)	Find the Node voltages V_1 and V_2 from the given network using Nodal analysis 	6M	20ESX05.1	L3
6 (b)	Write the principles of duality theorem in networks and explain with one example	6M	20ESX05.1	L2
	OR			
7 (a)	Explain the procedure of Cut-set matrix representation using one example.	6M	20ESX05.1	L2
7 (b)	Find the power dissipated in the 5Ω resistor using source transformation method for the circuit shown below. 	6M	20ESX05.1	L3
8 (a)	Write the statement of Maximum Power transfer theorem and derive the condition for Maximum power dissipation at load.	6M	20ESX05.2	L2
8(b)	In the circuit shown below , calculate the current through R_L	6M	20ESX05.2	L3

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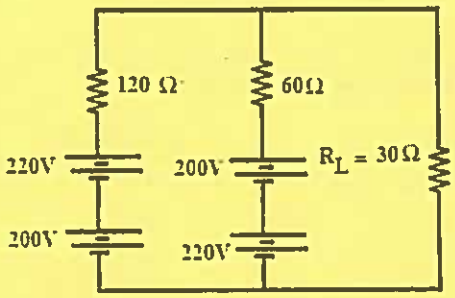
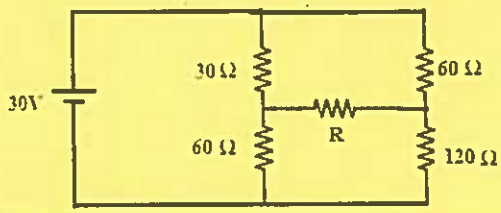
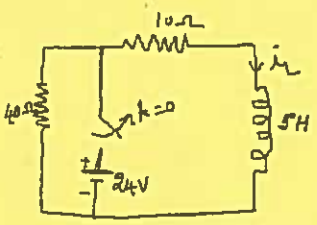
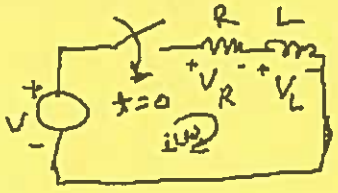


OR

What is the power delivered to the resistor R in the below circuit?

9 (a)		6M	20ESX05.2	L3
9 (b)	State reciprocity theorem and derive the condition for the same	6M	20ESX05.2	L2
10	Find the current through the inductor after switch operation (t>0), assume the switch is opened at t=0 0 	12M	20ESX05.3	L3

OR

11 (a)	Describe the procedure for evaluation of initial conditions for RL and RC circuit Write the expressions for Voltage across R (VR) and the Voltage across inductor (VL) with graphical representations.	6M	20ESX05.3	L2
11(b)		6M	20ESX05.3	L3
12	Derive the expression for frequency at which the voltage across inductor is maximum in a RLC series circuit	12M	20ESX05.4	L2

OR

13	Derive the expression for resonance frequency and Quality factor of RLC parallel circuit	12M	20ESX05.4	L3

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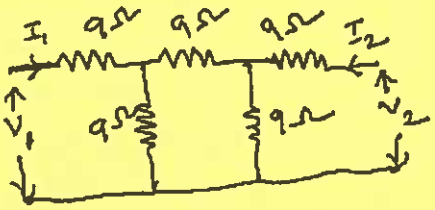
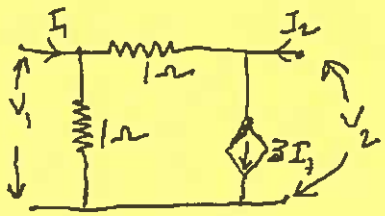
	Find the Z- parameters of the given network			
14		12M	20ESX05.5	L3
	OR			
15(a)	Derive the relation between Z-parameters and Y-parameters of a two port networks Find the Z parameters of the given network	6M	20ESX05.5	L2
15(b)		6M	20ESX05.5	L2

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