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III B.TECH I SEM

SUPPLEMENTARY EXAMINATIONS

MARCH / APRIL 2024

NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

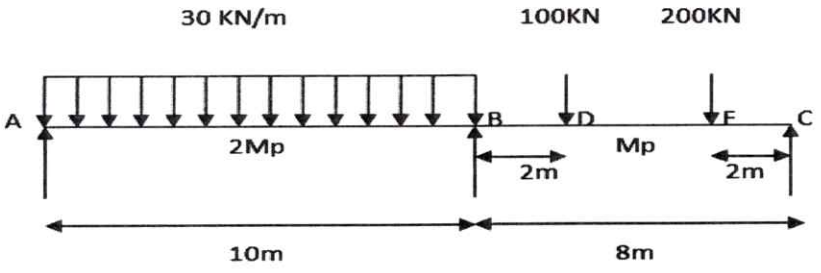
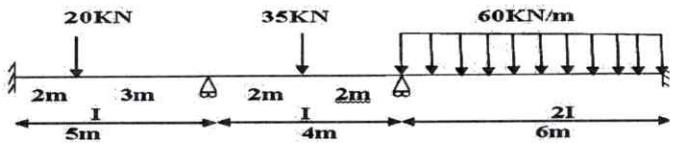
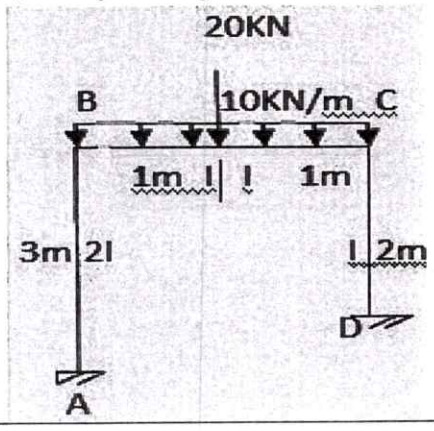
III B.Tech I Semester Supple. Examinations, March-2024

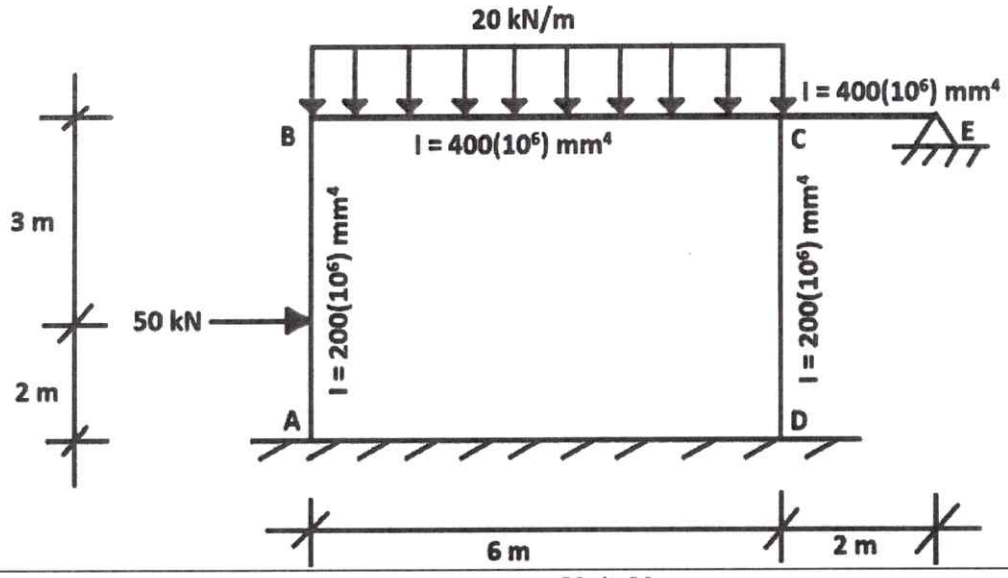
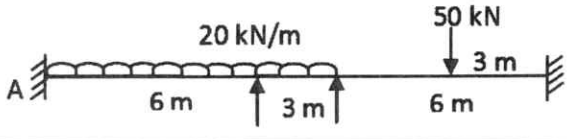
Sub Code: 19BCE5TH02 **STRUCTURAL ANALYSIS-II**

Time: 3 hours (CE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) A fixed beam of span 8 m carries a point loads, 200 KN and 150 KN at a distance of 3 m and 5 m from the left end. Find fixed end moments, reactions at supports, central deflection .Draw SFD and BMD.	K3	1	12M
		OR			
	b	i) Analyse the given continous beam and draw the shear force and bending moment diagram. 	K3	1	12M
2		Unit-II			
	a	Derive Clapeyron's three moment equation.	K3	2	12M
		OR			
	b	i) Analyze the given Continuous beam if support "B" sinks by 10mm. Take EI = 6000KN/m^2 	K3	2	6M
3		Unit-III			
	a	i) Analyze a continuous beam of span 11 m fixed at one end and carries a UDL of 10kN/m for a span of 5 m from the support and a point load of 40kN at the mid span of reaming position, supports are provided at a distance of 5 and 11 m from the fixed end respectively. Use slope deflection method.	K3	3	12M
		OR			
	b	i) Analyze the given frame by using Moment distribution method. 	K3	3	12M

4		Unit-IV			
	a	i) Analyse the given continuous beam by using Kani's Method in which the total span of the beam is 15m. The span AB = BC = CD = 5m.The load acting on the span AB = 90KN which is acting at a distance of 3m from left end "A" , the span BC = 40KN/m and CD = 60KN which is acting at a distance of 2m from right end "D". For span AB and CD it is "I" and for BC it is 1.5 I. The ends "A" and "D" are fixed and the remaining are simply supported.	K3	4	12M
		OR			
	b	i) Analyze the given frame by Kani's method.  	K3	4	12M
5		Unit-V			
	a	i) Analyse the given beam by stiffness matrix method.  	K3	5	12M
		OR			
	b	i) Explain the procedure of analyzing the structural elements by flexibility matrix methods.	K3	5	8M
		ii)Brief the Kinematic in determinancy?	K3	5	4M

NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BEE5TH03 ELECTRICAL TRANSMISSION SYSTEM

Time: 3 hours (EEE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Discuss the concepts of self GMD and mutual GMD by deriving the equations of transmission lines.	K3	1	6M
		ii) Calculate the capacitance of a conductor per phase of a three-phase 400 km long line, with the conductors spaced at the corners of an equilateral triangle of side 4 m and the diameter of each conductor being 2.5 cm.	K3	1	6M
		OR			
	b	i) What is bundled conductors and explain them also discuss their merits and demerits	K2	1	6M
		ii) Compute the inductance of a conductor per phase of a three phase, three-wire system. When the conductors are arranged at the corners of an equilateral triangle of 3.5 m sides and the diameter of each conductor is 2 cm.	K3	1	6M
2		Unit-II			
	a	Derive the A, B, C, D constants of the long transmission lines by complex angle method.	K3	2	6M
		A 50 Hz, 400 kV transmission line is 450 km long and having the distributed parameters resistance is 0.032 ohms per km, L=1.057 mH/km, C=0.0109 micro farad per km. it is delivering 420 MW at 0.95 lagging. By neglecting the leakage conductance. Find the sending end voltage and current, power factor, load angle, A,B,C,D parameters, regulation and efficiency of the line	K3	2	6M
		OR			
	b	i) What do you understand by the terms nominal T and nominal-π circuits? Derive the expressions of ABCD constants for the nominal-π circuit of a medium transmission line.	K3	2	6M
		ii) An overhead 3-phase transmission line delivers 5000 kW at 22kV at 0.8 power factor lagging the resistance and reactance of each conductor is 4 ohms and 6 ohms respectively. Determine sending end voltage, percentage regulation and Transmission efficiency.	K3	2	6M
3		Unit-III			
	a	i) Explain in detail about the effects of power system transients.	K3	3	6M
		ii) An overhead line with inductance and capacitance per km length of 1.2 mH and 0.09 micro farad respectively connected in series with an underground cable having inductance and capacitance of 0.4 mH per km respectively. Calculate the values of reflected and transmitted waves of voltages and current at the junction due to a voltage surge of 100 kV travelling to the junction along the line towards the cable and along the cable towards the line.	K3	3	6M

		OR			
	b	i) Derive the expressions for the reflected and refracted waves in a line ended with infinite resistance.	K2	3	6M
		ii) A surge of 110 kV is travelled by the line of surge impedance 550 ohms and reaches the junction of the line with two branch lines. The surge impedances of branch lines are 450 ohms and 50 ohms respectively. Find the transmitted voltage and currents. Also find the reflected voltage and current	K3	3	6M
4		Unit-IV			
	a	i) What is string efficiency? Why is it necessary to have high string efficiency? How can it be achieved?	K3	4	6M
		ii) Determine the sag of an overhead line for the following data: span length 160 meters, conductor diameter 0.95 cm, weight per unit length of the conductor 0.65 kg/meter. Ultimate stress 4250 kg/cm2, wind pressure 40 kg/cm2 of projected area. Factor of safety 5.	K3	4	6M
		OR			
	b	i) Derive the expression for the Sag in horizontal plane when the conductor is covering ice and wind pressure.	K2	4	6M
		ii) In a five insulator disc string capacitance between each unit and earth is 1/5 of the mutual capacitance. Find the voltage distribution across each insulator in the string as percentage of voltage of the conductor to earth, find the string efficiency and how the efficiency is affected by rain? If the insulators in the string are designed each to with stand 35 kV maximum, find the operating voltage of the line where five insulators string can be used.		4	6M
5		Unit-V			
	a	i) Draw the cross section of a 3-core belted high voltage cable and describe its various parts	K3	5	6M
		ii) A single core cable has a conductor diameter of 2.5 cm and a sheath of inside diameter 6 cm. Calculate the maximum stress. It is desired to reduce the maximum stress by using two intersheaths. Determine their best position, the maximum stress and the voltage on each. Consider the System voltage as 3-phase 66 kV.	K3	5	6M
		OR			
	b	i) Discuss in detail about effect of the corona on the communication lines.	K2	5	6M
		ii) Find the disruptive critical voltage and visual corona voltage for a grid of line operating at 132 kV. The line consisting of 1.96 cm diameter conductors spaced 3.81 meters apart. The following data can be considered. Temperature 44^0 c, barometric Pressure 73.7 cm of mercury, conductor surface factor 0.84, fine weather 0.8, rough weather 0.66.	K3	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCC5OE10 **OOPS THROUGH JAVA**

Time: 3 hours (ME) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Distinguish between procedure-oriented languages and object-oriented programming languages.	K4	1	6M
		ii) Explain all the java features in details	K4	1	6M
		OR			
	b	i) Describe all the object oriented principles.	K2	1	6M
		ii) Explain the Java program structure with example program.	K4	1	6M
2		Unit-II			
	a	i) Illustrate all the control statements with example programs	K4	2	6M
		ii) Explain all the unary, binary and ternary operators supported by Java Programming language.	K4	2	6M
		OR			
	b	i) Illustrate all the types of constructors with examples	K4	2	6M
		ii) Explain in how many ways static key word can be used.	K4	2	6M
3		Unit-III			
	a	Explain the types of inheritances supported by Java with example programs.	K4	3	12M
		OR			
	b	i) Distinguish between Abstract classes and Interfaces.	K4	3	6M
		ii) Define package and explain how to create a package and how to use it.	K3	3	6M
4		Unit-IV			
	a	i) Explain Exception handling techniques in Java.	K4	3	6M
		ii) Illustrate how to create a User defined exception with example code.	K4	3	6M
		OR			
	b	i) What are the different controls present in AWT? Explain.	K4	4	6M
		ii) Write a program to create a login screen with AWT Components and Containers.	K3	4	6M
5		Unit-V			
	a	Explain in detail what a Delegation Event Model is with a neat diagram.	K4	4	12M
		OR			
	b	i) Explain the use of Adapter classes in Java.	K4	4	6M
		ii) Explain what is an Inner class with an example program.	K4	4	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BEC5TH02 LINEAR AND DIGITAL IC APPLICATIONS

Time: 3 hours (ECE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Explain how Op-Amp can be used as integrator and differentiator.	II	1	6M
		ii) Explain Op-Amp DC and AC characteristics.	I	1	6M
		OR			
	b	i) Explain Op-Amp internal circuit in detail.	I	1	6M
		ii) Explain how Op-Amp can be used as triangular and square wav generator.	II	1	6M
2		Unit-II			
	a	Explain 555 IC functional description, monostable and astable operation.	II	2	12M
		OR			
	b	i) Explain Binary weighted resister DAC.	I	2	6M
		ii) Explain successive approximation ADC.	I	2	6M
3		Unit-III			
	a	i) Explain low pass Butterworth filter design steps.	II	3	6M
		ii) Explain voltage controlled oscillator in detail.	I	3	6M
		OR			
	b	i) Explain IC 566 block diagram and features.	I	3	6M
		ii) Explain any two 565 IC PLL applications.	II	3	6M
4		Unit-IV			
	a	i) Explain TTL logic and TTL NOR gate.	I	4	6M
		ii) Compare CMOS, TTL and ECL families.	II	4	6M
		OR			
	b	i) Explain CMOS NAND and NOR gates in detail.	I	4	6M
		ii) Explain CMOS/TTL interfacing in detail.	II	4	6M
5		Unit-V			
	a	i) Explain design of n-bit parallel subtractor.	I	5	6M
		ii) Explain modeling styles of VHDL.	I	5	6M
		OR			
	b	i) Explain design of BCD to 7 segment display counter.	II	5	6M
		ii) Explain working of IC74X682 8 bit comparator.	II	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

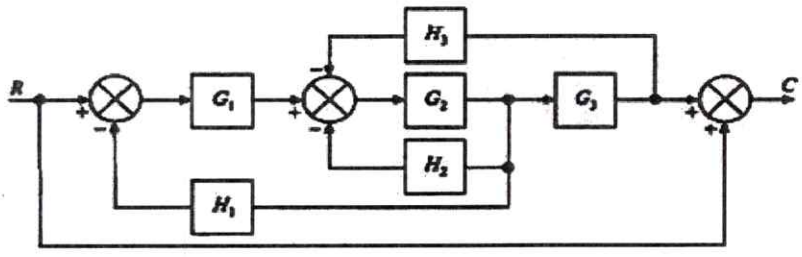
III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BEC5TH04 **CONTROL SYSTEMS**

Time: 3 hours (ECE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Explain the feedback characteristics of closed loop control system	2	1	6M
		ii) Explain about sensitivity of open loop and closed control systems	2	1	6M
		OR			
	b	For the system shown in figure below obtain the transfer function using block diagram reduction technique 	2	1	12M
2		Unit-II			
	a	For servomechanisms with open loop transfer function given below explain what type of input signal give rise to a constant steady state error and calculate their values a) $G(s)=20(s+2)/s(s+1)(s+3)$ b) $G(s)=10/(s+2)(s+3)$ c) $G(s)=10/s^2(s+1)(s+2)$	3	2	12M
		OR			
	b	i) Write the expressions for time domain specifications of a standard second order system with unit step input	1	2	6M
		ii) A unity feedback control system has an open loop transfer function $G(s)=10/s(s+2)$. Obtain the rise time, peak time and settling time	5	2	6M
3		Unit-III			
	a	i)Establish the Stability of the system having characteristic equation $s^6+2s^5+8s^4+12s^3+20s^2+16s+16=0$ using Routh stability criterion	3	3	6M
		ii) Define the following terms i. Absolute stability ii. Marginal stability iii. Conditional stability	2	3	6M
		OR			
	b	Sketch the root locus of the system whose open loop transfer function is $G(s)=K/s(s+2)(s+4)$.Evaluate the value of K so that the damping ratio of the closed loop system is 0.5	5	3	12M
4		Unit-IV			
	a	Consider a unity feedback system having an open loop transfer function $G(s)=K/s(1+0.5s)(1+4s)$. Sketch the polar plot and determine the value of K so that (i) Gain margin is 20dB (ii)Phase margin is 30^o	4	4	12M

		OR			
	b	Given that $G(s)= Ke^{-0.2s}/s(s+2)(s+8)$ by using bode plot find K so that the system is stable with (i) gain margin equal to 2db (ii) phase margin equal to 45°	3	4	12M
		Unit-V			
	a	i) Explain about compensation? What are the different types of compensators	2	5	6M
		ii) Discuss about the properties of state transition matrix	2	5	6M
		OR			
5	b	Chek the controllability and observability of the given matrix $\begin{bmatrix} \dot{x}_1 \\ \dot{x}_2 \end{bmatrix} = \begin{bmatrix} -2 & -3 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} + \begin{bmatrix} 1 \\ 0 \end{bmatrix} u$ $y = \begin{bmatrix} 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$	5	5	12M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NEC NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

Subject Code: 19BEC5TH05

III B. Tech I Semester Supple. Examinations,March-2024

COMPUTER ORGANIZATION AND MICROPROCESSORS

Time: 3 hours **ECE** **Max Marks: 60**

Note: Answer All **FIVE** Questions.
All Questions Carry Equal Marks (5 X 12 =60M)

QNo		Questions	K L	CO	Marks
1		**Unit-I**			
	a	I) Explain the basic operational concepts in a computer with neat block diagram	**K2**	**1**	**6M**
		II) Explain the concept of bus structure in computer system along with diagrams	**K2**	**1**	**6M**
		OR			
	b	I) Define software?*E*xplain system software and application software with examples	**K3**	**1**	**6M**
		II) Write short notes on CISC processor	**K3**	**1**	**6M**
2		**Unit-II**			
	a	I) Explain about main memory and its types.	**K2**	**2**	**6M**
		II) Define Virtual Memory? Explain about Virtual Memory.	**K2**	**2**	**6M**
		OR			
	b	I) Draw the block diagram of DMA controller and explain in detail	**K3**	**2**	**6M**
		II) Explain the Concept of Cache memory organization in detail	**K2**	**2**	**6M**
3		**Unit-III**			
	a	I) Draw & Explain the Architecture of 8086	**K3**	**3**	**6M**
		II) What is meant by an addressing mode? Explain different addressing modes supported by 8086 with suitable examples	**K5**	**3**	**6M**
		OR			
	b	I)Explain the logical , rotate instructions of 8086 microprocessor with examples	**K2**	**3**	**6M**
		II) Write an Assembly Language Program to arrange the given list of numbers in Ascending Order.	**K1**	**3**	**6M**
4		**Unit-IV**			
	a	I) Explain the Maximum Mode Pins of 8086.	**K3**	**4**	**6M**
		II Define Interrupt & Interrupt Service Routine. Explain how Interrupts are handled in 8086 with timing diagram.	**K2**	**4**	**6M**
		OR			
	b	I) Explain about Minimum Mode of Operation of 8086 with help of Timing Diagram.	**K3**	**4**	**6M**
		II) Write short notes on Pentium processor	**K1**	**4**	**6M**

5		**Unit-V**			
	a	I) I Explain the various modes of operation of 8255..	**K2**	**5**	**6M**
		II) Describe the important features of 8257 DMA	**K2**	**5**	**6M**
		OR			
	b	I) Draw & explain the architecture of 8251 USART	**K3**	**5**	**6M**
		II) Explain the interfacing of DAC with 8086 with a neat sketch.	**K2**	**5**	**6M**

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KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCC5OE08 **CONSUMER ELECTRONICS**

Time: 3 hours (ECE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	What is Microphone ? List different types of Microphone. Explain Carbon Microphone in brief.	II	1	12M
		OR			
	b	What are the different types of loudspeaker? Explain the working of any one of them with the help of neat diagram.	II	1	12M
2		Unit-II			
	a	Explain with the help of diagram the function of each Block of Hi-Fi amplifier	II	2	12M
		OR			
	b	i) Briefly explain the recording and playback system of an optical video disc.	III	2	6M
		ii) Analyze the noise reduction in audio systems.	IV	2	6M
3		Unit-III			
		Briefly explain the working of a monochrome picture tube with neat diagram.	II	3	12M
		OR			
	b	i) State time periods of horizontal and vertical sync detail.	I	3	6M
		ii) Draw the block diagram for separating U and V signal in Colour TV.	I	3	6M
4		Unit-IV			
	a	Explain the working principle of Cable TV and DTH system with neat block diagram.	II	4	12M
		OR			
	b	Briefly discuss on MAC Encoder and Decoder.	III	4	12M
5		Unit-V			
	a	Explain the principle and working of microwave oven with a neat block diagram.	II	5	12M
		OR			
	b	Discuss the working of a domestic refrigerator with neat diagram.	III	5	12M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCI5TH01 **OPERATING SYSTEMS**

Time: 3 hours (Common to CSE, IT) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) What is operating system? Discuss different views of operating systems.	2	1	6M
		ii) Explain functions of operating systems.	2	1	6M
		OR			
	b	i) Explain different structures of operating system.	2	1	6M
		ii) Explain file management and device management.	2	1	6M
2		Unit-II			
	a	Explain CPU Scheduling algorithms with examples	2	2	12M
		OR			
	b	i)Draw and explain process state diagram	2	2	6M
		ii) Explain process scheduling queues with diagram.	2	2	6M
3		Unit-III			
	a	i) What is critical section? Explain Peterson's solution.	2	3	6M
		ii) Explain critical sections of following Synchronization problems 1.Bounded buffer problem 2.Reader Writer problem	2	3	6M
		OR			
	b	i) What is contiguous memory allocation? Discuss its advantages and disadvantages.	2	3	6M
		ii) Explain paging. Discuss its advantages and drawbacks.	2	3	6M
4		Unit-IV			
	a	i) What is virtual memory? Explain demand paging with block diagram.	2	4	6M
		ii) Explain following page replacement algorithms with examples. 1. Optimal page replacement 2. LRU page replacement	2	4	6M
		OR			
	b	i) Explain resource allocation graph. What are the uses of resource allocation graph?	2	4	6M
		ii) Give necessary and sufficient conditions for deadlock occurrence.	2	4	6M
5		Unit-V			
	a	i) Explain file access methods.	2	5	6M
		ii) Explain different directory structures.	2	5	6M
		OR			
	b	i) Explain file allocation methods.	2	5	6M
		ii) Illustrate different disk scheduling methods.	2	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March,2024

Sub Code: 19BCI5TH02 **COMPILER DESIGN**

Time: 3 hours (CSE) Max. Marks: 60

Note: Answer All **FIVE** Questions. All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		**Unit-I**			
	a	i) What are the differences between a pass and phase of a compiler?	K2	1	2M
		ii) Explain the different phases of the Compiler, showing the output of each phase using an example for the statement z = (a*20) + b – c?	K4	1	10M
		OR			
	b	i) Compare and contrast compiler with interpreter?	K2	1	6M
		ii) What is the role of lexical analyzer and write the transition diagram for recognizing an identifier?	K1	1	6M
2		**Unit-II**			
	a	State whether the grammar is LL (1) or not. E → E+T, E→ T,T→ T*F, T→ F, F → a	K5	2	12M
		OR			
	b	i) Define left recursion? How to remove Left recursion from the given grammar : S →Aa / b A → Ac / Sd / e	K2	2	6M
		ii) What do you mean by ambiguity in Context Free Grammars (CFG)? Give an example for ambiguous grammar? Show that the grammar in your example is ambiguous?	K5	2	6M
3		**Unit-III**			
	a	i) Define LR (k) parser. Draw and explain model of LR parser	K2	3	6M
		ii) How to handle ambiguous grammars in LR Parsing?	K2	3	6M
		OR			
	b	Design CLR parser for the following grammar. E → E+T, E→ T,T→ T*F, T→ F, F → (E) , F → id	K6	3	12M
4		**Unit-IV**			
	a	i) How Syntax Directed Translation is used for translation of expressions?	K2	4	4M
		ii) Write quadruple, triples and indirect triples for the expression given (x + y)*(y + z) + (x + y + z)	K5	4	8M
		OR			
	b	i) Distinguish static and dynamic type checking?	K4	4	4M
		ii) Explain about the stack storage allocation strategy with example?	K4	4	8M
5		**Unit-V**			
	a	i) Discuss how given program can be converted into flow graph?	K2	5	6M
		ii) How to implement Code generation algorithm to generate code for the following expression? x=(a-b) + (a+c)	K3	5	6M
		OR			
	b	i) Write briefly about various Loop optimization techniques?	K5	5	6M
		ii) Explain peephole optimization techniques with examples	K4	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks***

NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCS5TH03 **COMPUTER NETWORKS**

Time: 3 hours (CSE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) Explain the ISO-OSI reference model with a neat diagram.	2	1	12M
		OR			
	b	i) Discuss in brief about computer network topologies.	2	1	6M
		ii) Compare and Contrast LAN,MAN and WAN	3	1	6M
2		Unit-II			
	a	Explain error detection and correction techniques with example	2	2	12M
		OR			
	b	i) Explain the design issues of data link layer	2	2	6M
		ii) Explain MAC sub layer protocol and frame structure of IEEE 802.11	2	2	6M
3		Unit-III			
	a	i) Explain simplex protocol in detail	2	3	6M
		ii) Compare and Contrast HDLC and PPP	3	3	6M
		OR			
	b	i) What is CSMA with CD? What are the three different states a CSMA/CD can be in? Explain with a neat diagram.	2	3	6M
		ii) Compare and Contrast pure aloha and slotted aloha	3	3	6M
4		Unit-IV			
	a	i) Differentiate between Virtual circuit Versus Datagram Subnets.	3	4	6M
		ii) Explain the major difference between distance vector routing and link state routing.	2	4	6M
		OR			
	b	i) With an example explain the Hierarchical routing algorithm used in computer networks	2	4	6M
		ii) Explain the IPv4 frame format in detail	2	4	6M
5		Unit-V			
	a	i) Describe about a) TCP connection establishment. b)TCP Connection release	2	5	12M
		OR			
	b	i) Explain the following (a)DNS (b)EMAIL (c)WWW	2	6	12M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NEC NARASARAOPETA ENGINEERING COLLEGE
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III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCS5TH04 **OOAD THROUGH UML**

Time: 3 hours (CSE) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	i) What are the advantages of Object Oriented over traditional development methodologies in Software development?	L1	CO1	6M
		ii) Define a model. Describe the principles of modelling	L1	CO1	6M
		OR			
	b	i) Explain briefly about the various diagrams in UML	L2	CO1	6M
		ii) In UML, state how system architecture is deployed?	L1	CO1	6M
2		Unit-II			
	a	i) What is the use of Advanced Classes? Explain its properties.	L1,L2	CO2	6M
		ii) Differentiate classes, packages and interfaces with examples.	L1,L2	CO2	6M
		OR			
	b	i) Write short notes on Object Diagrams	L1	CO2	6M
		ii) What is an interface? How it is different from class. Explain with example..	L1,L2	CO2	6M
3		Unit-III			
	a	i) What is use of Sequence Diagram and explain the important elements of Sequence Diagram?	L2	CO3	6M
		ii) Define Use case? What are the points to be considered to model the context of a system using Use case diagram?	L1	CO3	6M
		OR			
	b	List out the five different types of actions used by the messages in the interaction? Draw a diagram to illustrate the same?	L1,L4	CO3	12M
4		Unit-IV			
	a	Write short notes on (i) Events and signals (ii) processes and threads (iii) Transition and condition	L1	CO4	12M
		OR			
	b	i) Define the components of Advanced behavioural Modelling.	L1	CO4	6M
		ii) Compare sub states, nested states, and composite states.	L4	CO4	6M
5		Unit-V			
	a	i) Explain briefly about the component diagrams in UML.	L2	CO5	6M
		ii) Discuss the usefulness of deployment diagram.	L2	CO5	6M
		OR			
	b	i)Summarize the concept of components and interfaces with a neat diagram?	L3	CO5	6M
		ii) Build the steps to model an executable release. Illustrate with a UML diagram.	L2	CO5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
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III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCS5TH05 **ADVANCED JAVA AND WEB TECHNOLOGIES**

Time: 3 hours (CSE, IT, AI) Max. Marks: 70

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 14 = 70M)

QNo		Questions	K L	CO	Marks
1		**Unit-I**			
	a	Discuss various states in life cycle of a servlet and explain the methods involved in it.	**K2**	**CO1**	**9M**
		Explain about HttpServletResponse interface.	**K2**	**CO1**	**5M**
		OR			
	b	Explain various header fields used in HTTP request messages with their meanings.	**K2**	**CO1**	**9M**
		Define a Cookie. State its advantages.	**K2**	**CO1**	**5M**
2		**Unit-II**			
	a	Define JSP markup and explain various JSP page directive attributes available.	**K2**	**CO2**	**9M**
		What are the possible disadvantages of using a Servlet?	**K2**	**CO1**	**5M**
		OR			
	b	Explain the Model View Controller architecture in designing a JSP application.	**K3**	**CO3**	**9M**
		How to declare variables and methods using JSP?	**K2**	**CO2**	**5M**
3		**Unit-III**			
	a	Explain how data can be passed between JSP pages with example program.	**K2**	**CO2**	**9M**
		Discuss about JSP error handling and debugging.	**K2**	**CO2**	**5M**
		OR			
	b	Describe various implicit objects provided by JSP.	**K2**	**CO2**	**9M**
		What is a session object in JPS? How is it useful?	**K3**	**CO3**	**5M**
4		**Unit-IV**			
	a	Explain the procedure of accessing database from a JSP page.	**K2**	**CO4**	**9M**
		What is the use of Prepared statement?	**K2**	**CO4**	**5M**
		OR			
	b	What are various connection methods available to create statements with desired ResultSet? Describe each of them.	**K2**	**CO4**	**9M**
		Discuss about various JDBC driver types.	**K2**	**CO4**	**5M**
5		**Unit-V**			
	a	Explain how recursion can be achieved in PHP with example program.	**K3**	**CO5**	**9M**
		Discuss about PHP variables and constants.	**K3**	**CO5**	**5M**
		OR			
	b	How form validation can be done using PHP? Explain with example.	**K3**	**CO5**	**9M**
		Explain how user defined functions can be created using PHP.	**K3**	**CO5**	**5M**

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NARASARAOPETA ENGINEERING COLLEGE
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III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BCI5TH06 DATA WAREHOUSING AND DATA MINING

Time: 3 hours (CSE,IT) Max. Marks: 60

Note: Answer All **FIVE** Questions.

All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
		What is data mining? Explain the motivating challenges and origins of data mining?	K1,K2	CO1	12M
		OR			
		Explain in detail the types of data sets.	K2	CO1	12M
2		Unit-II			
	a	i)Discuss the feature subset collection in data preprocessing.	K2	CO2	6M
		ii)Illustrate Similarity and Dissimilarity between Simple Attributes .	K4	CO2	6M
		OR			
	b	i) Explain mean and median with the help of examples	K2	CO2	6M
		ii) Illustrate similarities between data objects.	K4	CO2	6M
3		Unit-III			
	a	i) What is data warehouse? Explain in detail star and snow flake schemas in multidimensional data model?	K1,K2	CO3	6M
		ii) Explain OLAP operations in multidimensional data model?	K2	CO3	6M
		OR			
	b	i) Draw the Three tier data warehouse architecture and Explain the top tier architecture?	K2,K5	CO3	6M
		ii) Write short notes on data warehouse back end tools and utilities.	K2	CO3	6M
4		Unit-IV			
	a	What is meant by decision tree? Explain the general approach is used to solve a classification problem?	K1,K2	CO4	12M
		OR			
	b	Explain in detail Bayes theorem?	K2	CO4	12M
5		Unit-V			
	a	i) How the frequent item set generated in the apriori algorithm?	K2	CO5	6M
		ii) Write short notes on FP Growth algorithm	K2	CO5	6M
		OR			
	b	i) What is Cluster analysis? Explain different types of clustering.	K1,K2	CO5	6M
		ii) Write short notes on K-means algorithm	K2	CO5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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NARASARAOPETA ENGINEERING COLLEGE
(AUTONOMOUS)

III B.Tech I Semester Supple. Examinations, March-2024

Sub Code: 19BIT5TH02 **WEB DEVELOPMENT USING MEAN STACK**

Time: 3 hours (IT) Max. Marks: 60

Note: Answer All **FIVE** Questions.
All Questions Carry Equal Marks (5 X 12 = 60M)

Q.No		Questions	KL	CO	M
1		Unit-I			
	a	Explain Angular architecture in detail.	K2	1	12M
		OR			
	b	i) List out different Structural and Component directives present in Angular and give brief description.	K1	1	6M
		ii) What is pipe? Illustrate pipes with examples.	K2	1	6M
2		Unit-II			
	a	Apply angular material module to create a toolbar in an angular app and explain the use of material module.	K3	2	12M
		OR			
	b	Apply Routing and Navigation concept of Angular and write an example program to demonstrate it.	K3	2	12M
3		Unit-III			
	a	Distinguish between Traditional Web Server model and Node.js process model.	K4	3	12M
		OR			
	b	Explain how to create Node.js web server in detail.	K2	3	12M
4		Unit-IV			
	a	Illustrate how to perform read and write operations with respect to Node.js file system.	K2	3	12M
		OR			
	b	i) Explain the concept of Event Handling in Node.js	K2	3	6M
		ii) What are the advantages of Express.js?	K1	4	6M
5		Unit-V			
	a	i) Explain how to create a database in MongoDB and how to establish a connection with it through example code.	K2	5	6M
		ii) Explain how to create a collection in MongoDB database and insert multiple documents into it at a time.	K2	5	6M
		OR			
	b	i) Write a program to update many documents at a time in MongoDB database.	K2	5	6M
		ii) Write a program to update only specific fields in the collection in MongoDB database.	K2	5	6M

KL: Blooms Taxonomy Knowledge Level CO: Course Outcome M:Marks

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