

AR16

CODE: 16CE2010

SET-1

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

II B.Tech II Semester Regular Examinations, April, 2018

Building Planning and Drawing

(CIVIL ENGINEERING)

Time: 3 Hours

Max Marks: 70

PART A

Answer any Three questions Part-A

[3 X 14 = 42 M]

1. a) Explain how the provision is made for different open spaces with sizes for residential building according to bye Laws? **8M**
b) Explain the phenomenon to calculate the total number of floors by a building by using the factor FAR **6M**
2. a) Explain the requirements of a residential building to accommodate a small family? **9M**
b) Explain the various characteristics of residential buildings. **5M**
3. a) What are the factors to be considered by planner prior to planning of residential building ? explain one of them in detail. **9M**
b) Name the rooms which can be used to serve different purposes in a residential house **5M**
4. a) What are the factors effecting orientation of buildings and explain each. **7M**
b) Explain briefly about sun path diagram **7M**
5. a) What is the importance of open space requirements according to building bye-laws? **7M**
b) Write the explanatory notes on Lighting and ventilation requirements **7M**

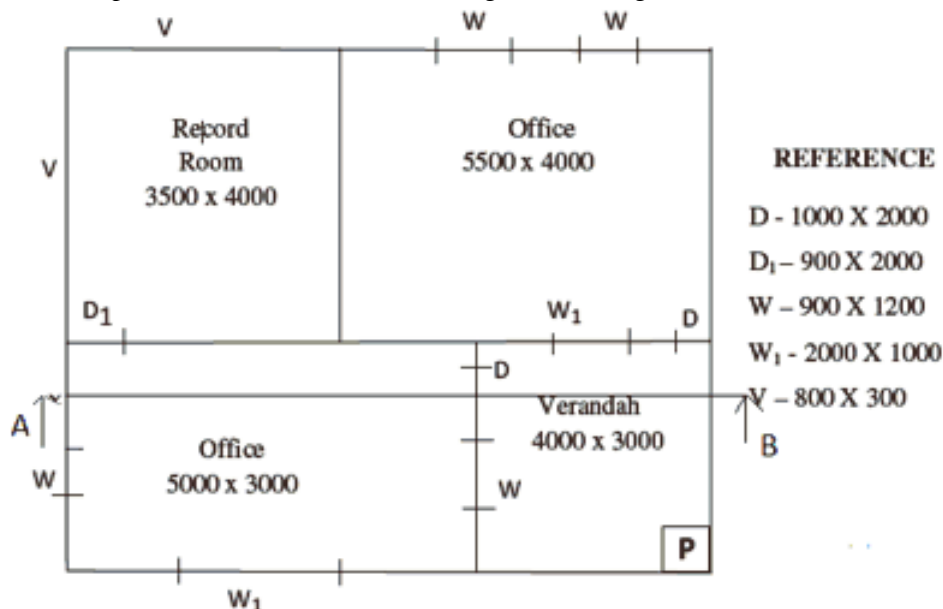
PART- B

Answer any ONE question from PART –B

1x28 =28 M

- 6 Draw the plan, section and elevation of the given line diagram?

28 M



Given dimensions are in mm

7. a Draw the elevation and plan of i) one and a half brick and ii) Two brick in Flemish bond **14M**
b Draw the section and elevation of panelled and Glazed window **14M**

AR16

CODE: 16EE2010

SET-2

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

II B.Tech II Semester Regular Examinations, April, 2018

ELECTRO MAGNETIC FIELD THEORY

(Electrical & Electronics Engineering)

Time: 3 Hours

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the Question must be answered at one place

UNIT-I

1. a) Obtain an expression for electric field intensity due to 7M
charged circular ring of radius 'h' placed in xy plane, at a
point p(0, 0, z), having uniform line charge density of ρ_l C/m.
b) What are the various types of charge distributions? Explain 7M
line charge; surface charge and volume charge densities. Find
the total charge inside a volume having volume charge
density as $15z^3e^{-0.3x}\sin\pi y$ (mc/m³). The volume is defined
between $-1 \leq x \leq 1$, $0 \leq y \leq 1$ and $2 \leq z \leq 5$.
(OR)
2. a) Find the 'E' due to the uniform infinite line charge of density 7M
' ρ_l ' C/m is located along Z axis using Gauss's law.
b) Given the potential $V=10 \sin\theta \cos\Phi/r^2$ find electric flux 7M
density 'D' at (2, $\Pi/2$, 0)

UNIT-II

3. a) Explain the properties of conductor in an electric field 4M
b) Explain and derive the boundary conditions for a dielectric – 10M
dielectric interface.
(OR)
4. a) Derive the expression for capacitance of parallel plate 7M
capacitor
b) Obtain the capacitance of co-axial cable using Laplace's 7M
equation.

UNIT-III

5. a) State and explain Biot- Savart's law 7M
b) Derive an expression for magnetic field intensity \mathbf{H} due to circular loop. 7M

(OR)

6. a) Obtain an expression for magnetic field intensity due to line of current using Ampere's circuital law 7M
b) Magnetic field intensity due to a current source is given by, $\mathbf{H} = [y \cos(\alpha x)] \mathbf{a}_x + (y + e^x) \mathbf{a}_z$. Determine current density over the yz plane and also calculate the current inside the rectangle $-1 < y < 1$ and $-2 < z < 2$. 7M

UNIT-IV

7. a) Two infinitely long parallel conductors are separated by a distance 'd'. Find the force per unit length exerted by one of the conductor on the other if the currents in the two conductors are I_1 and I_2 . 7M
b) Derive the expression for torque on a current loop placed in magnetic field. 7M

(OR)

8. a) Derive the expression for inductance of solenoid & toroid 7M
b) A coil of 500 turns is wound on a close iron ring of mean radius 10 cm and cross section area of 3 cm^2 . Find the self inductance of the winding if the relative permeability of iron is 800. 7M

UNIT-V

9. a) Derive an expression for displacement current for time varying fields. 7M
b) A circular loop conductor having a radius of 0.15m is placed in X-Y plane. This loop consists of a resistance of a 20Ω , if the magnetic flux density is $\mathbf{B} = 0.5 \sin 10^3 t \mathbf{a}_z \text{ T}$. Find current flowing through this loop. 7M

(OR)

10. a) Explain the concepts of transformer e.m.f and motional e.m.f. 4M
b) Derive an expression for Poynting vector 10M

• **Bold letter represents vector**

AR16

CODE: 16HS2004

SET-2

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

**II B.Tech II Semester Regular Examinations, April, 2018
MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS
(Mechanical Engineering)**

Time: 3 Hours

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the Question must be answered at one place

UNIT-I

1. a) Define Managerial Economics. Explain its nature and scope. **7 M**
b) Explain how Managerial Economics has its roots in Economics and Management. **7 M**
(OR)
2. What is Demand function? How do you determine it? **14 M**

UNIT-II

3. What do you understand by elasticity of demand? Explain the factors governing it. **14 M**
(OR)
4. What do you understand Demand Forecasting? Explain the different methods of Demand forecasting. **14 M**

UNIT-III

5. a) What is Iso- quant? What are the properties of Iso- quant? **7 M**
b) What is a production function? How does a long run production function differ from a short run production function? **7 M**
(OR)
6. a) Explain the Laws of returns with appropriate examples. **7 M**
b) Define cost. Explain the different cost concepts used in the process of cost analysis. **7 M**

UNIT-IV

7. a) Distinguish between Monopoly and Monopolistic competition. **6 M**
b) Product X involves an initial capital outlay of Rs.32,000/-. It's working life is expected to be three years. The cash streams before depreciation and after taxes are expected to be as follows: **8 M**

Year	1	2	3
NCIFs	16,000	14,000	12,000

Calculate the Internal Rate of Return.

(OR)

8. a) Discuss the features of imperfect competition. **7 M**
b) Explain, how the price is determined in case of monopoly? **7 M**

UNIT-V

9. a) What is meant by Double Entry System? Explain its advantages. **6 M**
b) From the following Trial Balance of Sri Ram and Sons, prepare the Trading and Profit & Loss Account for the year ending 31st March, 2015. **8 M**

Trial Balance as on 31st March, 2015

Particulars	Debit Rs.	Credit Rs.
Sri Ram' Capital		29,000
Sri Ram' Drawings	760	
Purchases and Sales	8,900	15,000
Sales and Purchase returns	280	450
Stock (01-04-2014)	1,200	
Wages	800	
Buildings	22,000	
Freight and Carriage	2,000	
Trade expenses	200	
Advertisement	240	
Interest		350
Taxes and Insurance	130	
Debtors and Creditors	6,500	1,200
Bills receivables and Bills payables	1,500	700
Cash at Bank	1,200	
Cash in Hand	190	
Salaries	800	
Total	46,700	46,700

Adjustments: a) Stock on 31st March, 2015 was valued at Rs. 1,500/-

(OR)

10. From the following transactions write journal entries and post them into ledger in the books of Bhaskar. **14 M**

2015	Particulars	Rs
March 1	Goods sold for Cash	2,600
March 2	Goods purchased for Cash	200
March 3	Purchases of goods on credit from Kumar	3,000
March 4	Sale of goods to Manikanta on credit	4,000
March 5	Cash received from Manikanta	2,500
March 6	Cash paid to Kumar	2,000
March 7	Furniture purchased for Cash	300

AR16

CODE: 16EC2007

SET-2

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

II B.Tech II Semester Regular Examinations, April-2018

**ANALOG COMMUNICATIONS
(Electronics and Communication Engineering)**

Time: 3 Hours

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the Question must be answered at one place

UNIT-I

1. a) Explain the benefits introduced by modulation process in a communication system. **7M**
b) Can we generate Amplitude modulated signal using a diode? Justify your answer. **8M**
- (OR)**
2. a) When the modulation percentage is 75, an AM transmitter produces 10KW. How much of this transmitted power, is carrier power. What would be the percentage power saving if the carrier and one of the side bands were suppressed? **6M**
b) Differentiate Square law diode detection and envelop detection. **8M**

UNIT-II

3. a) Explain the generation method of DSB-SC which uses a square signal as carrier. **7M**
b) Derive the time domain expression for a SSB-SC signal. **7M**
- (OR)**
4. a) Explain the demodulation of DSB-SC using Synchronous detection method. **7M**
b) Explain briefly about the AM modulation method used in television transmission. **7M**

UNIT-III

5. a) Explain how a varactor diode can be used to generate FM signal. **8M**
b) Differentiate Narrow band and Wide band FM. **6M**
- (OR)**
6. a) A carrier is frequency modulated by a sinusoidal modulating signal of frequency 2 kHz, resulting in a frequency deviation of 5 kHz. What is the bandwidth occupied by the modulated waveform? The amplitude of the modulating sinusoid is Doubled and its frequency is halved. What is the new bandwidth? **6M**
b) Explain FM demodulation using PLL with neat sketches. **8M**

UNIT-IV

7. a) Explain about variable reactance type FM transmitter. **7M**
b) Explain about the terms Selectivity, fidelity and Sensitivity with respect to a receiver. **7M**
- (OR)**
8. a) Compare AM and FM receivers. **6M**
b) Draw the block diagram of FM receiver and explain about each block. **8M**

UNIT-V

9. a) Compare PAM, PWM and PPM. **6M**
b) Derive the expression for Figure of merit of DSB-SC receiver. **8M**
- (OR)**
10. a) Explain the generation method of Pulse position modulation. **7M**
b) Explain how Pre-emphasis improves FM noise performance. **7M**

AR16

CODE: 16CS2006

SET-2

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

II B.Tech II Semester Regular Examinations, April, 2018

Computer Organization and Architecture (COMMON TO CSE & IT)

Time: 3 Hours

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the Question must be answered at one place

UNIT-I

1. a) Interpret the words computer architecture and computer organization. Relate the attributes with suitable examples. **4M**
 - b) Discuss the possible ways of representing the floating-point numbers in computer memory with examples. **10M**
- (OR)**
2. a) What are the basic functional units of computer? Explain. **7M**
 - b) Write a short note on performance of processor. **7M**

UNIT-II

3. a) Explain in detail about Decimal arithmetic Unit and decimal arithmetic operations with suitable examples and diagrams. **14M**
- (OR)**
4. a) Explain with suitable flowchart and example the subtraction of signed numbers. **7M**
 - b) List various multiplication algorithms and explain one with example and flowchart. **7M**

UNIT-III

5. a) Explain briefly about the register transfer with 4M example.
b) Write short notes on 10M
i. Program control
ii. Reduced Instruction Set Computer
- (OR)**
6. a) Design a 4-bit combinational circuit incrementer using four full-adder circuits and explain the operation. 7M
b) Illustrate the organisation of stack and explain the stack operation with push and pop instructions and relevant diagrams. 7M

UNIT-IV

7. a) Give the importance of cache memory. Explain the direct mapping cache with suitable diagrams. 7M
b) What is DMA? Explain DMA operation with relevant block diagram. 7M
- (OR)**
8. a) Explain the concept of associative memory, argument register, key register and match logic with relevant diagrams. 7M
b) Define programmed I/O subsystem. Explain with a neat flow chart. 7M

UNIT-V

9. a) Define pipeline and explain 4-stage instruction pipeline. 7M
b) Explain interconnection structures of multi-processor. 7M
- (OR)**
10. a) Explain arithmetic pipelining with flow chart. 7M
b) Describe briefly inter-processor communication and synchronization. 7M

Time: 3 Hours**Max Marks: 70****PART-A****ANSWER ALL QUESTIONS****[1 x 10 = 10 M]**

1.
 - a) Define Economics.
 - b) Define Managerial Economics.
 - c) What is Opportunity Cost.
 - d) What is Margin of Safety.
 - e) Define Perfect Competition.
 - f) Define Peak Load Pricing.
 - g) Explain the concept of Time Value of Money.
 - h) Define Working Capital.
 - i) Define Liquidity Ratios.
 - j) Define Capital Structure Ratios.

PART-B**Answer one question from each unit****[5x12=60M]****UNIT-I**

2.
 - a) Define demand and explain the various determinants of demand. 6
 - b) Explain why the demand curve slopes downwards. 6

(OR)
3.
 - a) Explain the concept and factors governing demand forecasting. 6
 - b) How can demand be forecasted for a product which is yet to be released into the market. 6

UNIT-II

4.
 - a) Explain the concept of least cost combination of inputs. 6
 - b) Examine in detail, the economies of scale. 6

(OR)
5.
 - a) Explain the graphical method of computing a break-even point. 6
 - b) Explain the managerial significance and limitations of break-even point. 6

UNIT-III

6. Explain in detail, the various types of market structures and competitions, giving suitable examples 12

(OR)

7. Explain in detail, the features and phases of Business Cycle. 12

UNIT-IV

8. a) Explain the meaning and need for capital budgeting. 6
 b) A company has two proposals for consideration (M & N). The cost of the proposal in both the cases is rs 5,00,000 each. A discount factor of 12% may be used to evaluate the proposals. Cash inflows after taxes are as follows 6

Years	Proposal M	Proposal N
1	1,50,000	50,000
2	2,00,000	1,50,000
3	2,50,000	2,00,000
4	1,50,000	3,00,000
5	1,00,000	2,00,000

Which proposal would you recommend under NPV method.

(OR)

9. A business firm is planning of choosing machines for their purpose after financial evaluation of the proposals. The initial cost and the net cash flow over 5 years to the business firm have been calculated for each machine and are as follows 12

Item	Machine X (in Rs)	Machine Y (in Rs)
Initial Cost	20,000	Rs 28,000
Net cash flow 1 year	8,000	10,000
2 year	12,000	12,000
3 year	9,000	12,000
4 year	7,000	9,000
5 year	6,000	9,000

Choose the machine based on a) Payback period method b) ARR method

UNIT-V

10. Explain in detail, the concepts and conventions of accounting. 12
 (OR)
 11. From the following Balance Sheet of Aparna Ltd; compute: 12
 a) Equity ratio (Proprietary ratio). b) Debt-Equity ratio.
 c) Funded Debt to Total Capitalization. d) Fixed Assets to Net worth Ratio.
 e) Solvency Ratio. f) Current Assets to Proprietor's Ratio.
 g) Fixed Assets Ratio.

Aparna Ltd.

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	3,00,000	Goodwill	90,000
9% Preference Share Capital	1,50,000	Land & building	1,00,000
Reserve Fund	50,000	Plant & Machinery	2,50,000
Profit & loss a/c	20,000	Equipment	60,000
Share Premium	10,000	Furniture's & Fittings	80,000
8% Debentures	2,00,000	Sundry Debtors	90,000
		92,000	
		Less: Provision	
		2,000	
6% mortgage loan	60,000	Bills Receivables	1,00,000
Sundry Creditors	80,000	Stock-in-hand	1,20,000
Income Tax Provision	20,000	Cash Balance	45,500
Depreciation fund	50,000	Prepaid Insurance	1,500
		Preliminary Expenses	2,000
		Discount on Issues of Debentures	1,000
	9,40,000		9,40,000

**ELECTRICAL CIRCUIT ANALYSIS-II
(Electrical and Electronics Engineering)****Time: 3 Hours****Max Marks: 70M****PART-A****ANSWER ALL QUESTIONS****[1 x 10 = 10 M]**

1. a) Draw the interconnection between a three phase delta connected source and a star connected load.
- b) In a three phase unbalanced star connected system, what is the vector sum of the currents in the three lines?
- c) When a series RC circuit is connected to a constant voltage source at $t=0$, find the current passing through the circuit at $t=0+$?
- d) An RL circuit has $R=2\Omega$ and $L=4H$. Find the time needed for the inductor current to reach 40 percent of its steady-state value is?
- e) What is the condition for transient current is oscillatory for a series RLC circuit with an AC excitation?
- f) What is the Laplace transform of the first derivative of a function $f(t)$?
- g) In the first Cauer LC network, what consists the driving point function when the first element is a series inductor?
- h) Define positive real function.
- i) Define decibel (dB).
- j) List-out the merits of m-filters.

PART-B**Answer one question from each unit****[5x12=60M]****UNIT-I**

2. a) A Symmetrical three phase three wire 400 volts supply is 8M connected to a delta connected load. Impedence $Z_{RY}=10 \angle 30^\circ \Omega$, $Z_{YB}=10 \angle -45^\circ$, $Z_{BR}=2.5 \angle 60^\circ$. Find its equivalent star connected load. The phase sequence is RYB.
- b) Two wattmeters are connected to measure power in a three 4M phase circuit. The reading of one of the meters is 5KW when the load power factor is unity. If the power factor of the load is changed to 0.707 lagging, without changing the total input power, calculate the readings of the two wattmeters.

(OR)

3. a) A three phase, four wire, 380V supply is connected to an unbalanced load having phase impedances of $Z_R=(4+j3)\Omega$, $Z_B=(4-j3)\Omega$ and $Z_C=2\Omega$. Impedance of neutral wire is $Z_n=(1+j2)\Omega$. Find the phase currents and voltages of the load using Millman's theorem.
- b) The balanced load in Fig.1 is fed by a balanced three phase 6M system having $V_{ab}=230\angle 0^\circ$ V rms and positive phase sequence. Find the reading of each wattmeter and the total power drawn by the load.

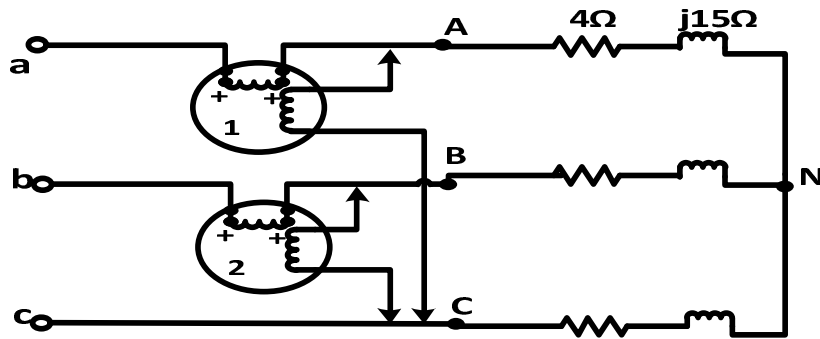


Fig.1

UNIT-II

4. a) Derive an expression for transient response current for a DC RL series circuit. 6M
- b) A Series RC circuit consists of resistor of 10Ω and capacitor of $0.1F$ as shown in the figure below. A constant voltage of 20 volts is applied to the circuit $t=0$ obtain the current equation. Determine the voltage across the resistor and capacitor 6M

(OR)

5. a) Assuming the switch initially has been open for a really long time. 6M
 time.
 (i) Obtain an expression for i_w in the circuit of fig.4 which is valid for all $t \geq 0$.
 (ii) Calculate i_w at $t=0$ and $t=1.3\text{ns}$.

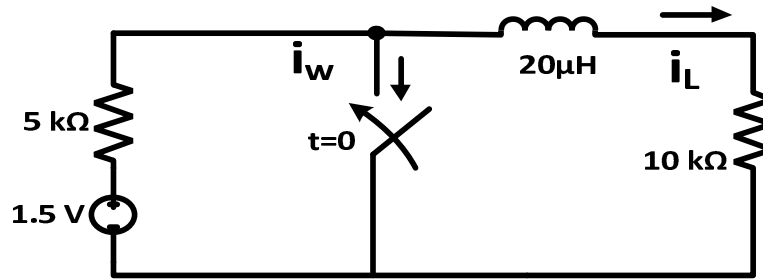


Fig.4

- b) The switch shown in fig.5 has been closed for 6 years prior to being flipped open at $t=0$. Determine i_L , v_L , and v_R at t equal to
 (i) $t=0^+$ sec (ii) $t=1\mu\text{sec}$ 6M

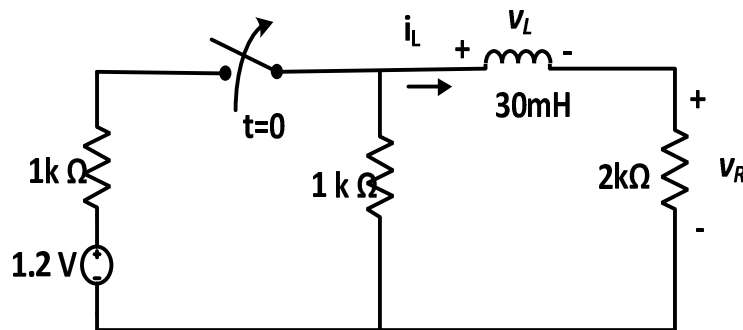


Fig.5

UNIT-III

6. a) For the circuit shown in fig.6, determine the current through the circuit, when the switch is moved from position 1 to position 2. 6M

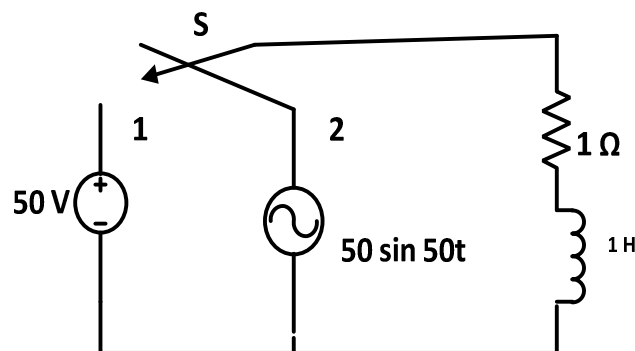


Fig.6

- b) Derive the expression for the transient response of RC series circuit with unit step input.

6M

(OR)

7. a) For the circuit shown in fig.7, determine the total current 8M delivered by the source when the switch is closed at $t=0$.

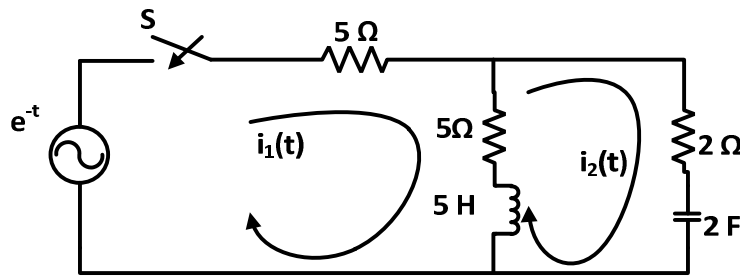


Fig.7

- b) Derive an expression for the current response of an RL series 4M circuit with sinusoidal excitation.

UNIT-IV

8. a) Test whether the following polynomials are Hurwitz. 4M
 (i) $s^4 + s^3 + 6s^2 + 3s + 4$ (ii) $s^3 + 3s^2 + 6s + 18$
 b) Find the first and second Foster form of the network whose 8M
 driving point impedance is $Z(s) = \frac{3(s+2)(s+4)}{(s+1)(s+3)}$

(OR)

9. a) State and explain Sturm's theorem with an example. 4M
 b) Find the second Caue form of the given function 8M

$$Z(s) = \frac{(s+1)(s+3)}{s(s+2)}$$

UNIT-V

10. a) Design a constant-K low pass filter(both T and π 6M
 sections)having a cut-off frequency of 3 kHz with a load resistance of 600Ω .
 b) Design a k type band pass filter(both T and π sections) 6M
 having a deisgn impedance of 500Ω and cut-off frequencies $f_1=1$ kHz and $f_2=10$ kHz.

(OR)

11. a) Design a constant k-type band elimination,T-section filter 6M
 having a design impedance of 500Ω and cut-off frequencies 1kHz and 5kHz.
 b) Design an m-derived low pass filter (both T and π sections) 6M
 with a cut-off frequency of 1 kHz,deisgn impedance of 400Ω and the resonant frequency of 1100Hz.

AR13

CODE: 13EC2009

SET-2

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, April, 2018

ANALOG COMMUNICATIONS
(Electronics and Communication Engineering)

Time: 3 Hours

Max Marks: 70

PART-A

ANSWER ALL QUESTIONS

[1 x 10 = 10 M]

1. a) What is single tone and multi tone modulation?
b) Draw the circuit diagram of AM Diode detector
c) What is the advantage of DSB-SC over DSB-FC
d) What is vestigial side band modulation?
e) What is wideband FM & Narrowband FM?
f) State Carson's Rule?
g) What are the different Classes of Transmitters
h) Define Sensitivity and Selectivity.
i) List out the applications of pulse modulation techniques.
j) Discuss threshold effect.

PART-B

Answer one question from each unit

[5x12=60M]

UNIT-I

2. a) Discuss AM in detail in time and frequency domains. Derive the expression for power content of an AM signal. 8
b) A transmitter radiates 9 kW without modulation and 10.125 kW after modulation. Determine depth of modulation. 4

(OR)

3. a) What is the need for modulation? Explain. 6
b) Explain the generation of AM signals using Nonlinear circuits. 6

UNIT-II

4. a) Discuss SSB-SC in detail in time and frequency domains. Derive the expression for power content of an SSB-SC signal. 8
b) Draw the spectrum of SSB SC and VSB. 4

(OR)

5. a) Discuss DSB-SC in detail in time and frequency domains. 6
Derive the expression for power content of a DSB-SC signal.
b) Draw the block diagram for the generation of a VSB signal 6
and explain the principle of operation

UNIT-III

- a) An angle modulated signal has the form $v(t) = 100 \cos(2\pi f_c t + 4 \sin 2000 \pi t)$ when $f_c = 10$ MHz i. Determine average transmitted power. ii. Determine peak phase deviation. iii. Determine the peak frequency deviation iv. Is this an FM or a PM signal? Explain. 6
b) Explain the working of zero crossing detector 6

(OR)

7. a) Explain the demodulation of FM signal using balanced frequency discriminator. Use relevant diagrams and expressions. 6
b) Explain the Comparisons between TDM and FDM 6

UNIT-IV

8. a) Discuss the frequency stability of FM transmitter. 6
b) In a broadcast super heterodyne receiver having no RF amplifier, the loaded Q of the antenna coupling circuit is 100. If the IF frequency is 455 kHz, determine the image frequency and its rejection ratio for tuning at 1.1. kHz a station. 6

(OR)

9. a) Explain the effect of feedback on the performance of AM transmitter. 6
b) Explain working of TRF receiver. Also explain the basic super heterodyne principle 6

UNIT-V

10. a) How is PDM wave converted into PPM system? 6
b) Compare noise performance of AM and FM systems 6

(OR)

11. a) Explain why a single channel PPM of system requires the transmission of synchronization signal, where as a single channel PAM or PDM system does not it. 6
b) Explain the noise performance of AM receiver model with the help of block diagram 6

Code: 13CS2008**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)****II B.Tech II Semester Supplementary Examinations, April, 2018****COMPUTER ORGANIZATION AND ARCHITECTURE****(Common to CSE & IT)****Time: 3 Hours****Max Marks: 70****PART-A****Answer all questions****[1 X 10 = 10M]**

1. a) What is IEEE standard for Floating Point representation?
- b) What are different functional units of a computer?
- c) What is Mask Operation?
- d) What is Memory Stack?
- e) Define Indexed Addressing Mode.
- f) Define Logical address and physical address.
- g) .What is Valid/ Invalid bit in paging.
- h) Draw the block diagram of ROM.
- i) Define cycle stealing.
- j) Define Handshaking.

PART B**Answer one question from each unit.****[5 X 12 = 60M]****UNIT 1**

2. a). Explain briefly Error Detection and Correction Codes. [6M]
 - b). Explain bus system for four registers. [6M]
- (OR)**
3. a) What are various applications of logic micro operations? Explain. [6M]
 - b) Explain Arithmetic Logic Shift Unit with the help of diagram. [6M]

UNIT II

4. a) Explain in detail look ahead carry adder. [7M]
 - b) Explain briefly about stack organization. [5M]
- (OR)**
5. Explain various addressing modes with numerical example. [12M]

UNIT III

6. a) Define Auxiliary Memory. Explain briefly about Magnetic disks. [7M]
 - b) Explain about Direct Mapping in Cache Memory with example. [5M]
- (OR)**
7. Explain in detail the paging concept in Virtual Memory. [12M]

UNIT IV

8. a) Write short notes on IOP. [5M]
 - b) Explain Asynchronous data transfer. [7M]
- (OR)**
9. Explain Direct Memory Access in detail. [12M]

UNIT V

10. What is Multi-Processor? Explain different Interconnection Structures for Multi-Processor Systems. [12M]
- (OR)**
11. a) What are various characteristics of RISC and CISC? [6M]
 - b) Explain briefly arbitration procedure. [6M]