AR16

CODE: 16HS4004   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

MANAGERIAL ECONOMICS &FINANCIAL ANALYSIS
(Civil 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.	7M
	b)	Define demand. Explain its determinants of demand	7M

(OR)

2.	a)	Define managerial economics. Explain its scope.	7M
	b)	Explain the basic economic principles used by managerial economics.	7M

UNIT-II

3.	a)	Define Demand explain its importance of elasticity of demand.	7M
	b)	Briefly explain the various methods of demand forecasting	7M

(OR)

4.	a)	Define the concept of demand analysis. Explain the different types of elasticity of demand.	7M
	b)	Explain the various factors governing to be demand forecasting.	7M

UNIT-III

5.	a)	Define production function. Explain the different types of production function	7M
	b)	You are given the following information about two companies in 2000	7M

Particulars	Company A	Company B
Sales	50,00,000	50,00,000
Fixed expenses	12,00,000	17,00,000
Variable expenses	35,00,000	30,00,000

Calculate profit and BEP.

(OR)

6.	a)	Explain the relationship of MRTS, ISo- Quants and ISO cost to production function with two variables.	7M
	b)	Define break even analysis. Explain managerial significance of BEA.	7M

7. a) Define perfect competition. Explain the price and output determination under perfect competition market. 7M

   b) Computech Limited is considering the purchase of a machine costing Rs.5,00,000 that has the following expected cash flows: 7M

Year	Expected cash inflow
1	2,00,000
2	2,50,000
3	1,50,000
4	1,00,000
5	75,000

Calculate the discounted payback period.

(OR)

8. a) Define monopoly. Explain the price and output determination under monopoly competition market. 7M

   b) A limited company is considering investment in a project requiring a capital outlay of Rs. 2, 00,000. Projected annual cash inflows are as follows. 7M

Year	1	2	3	4	5
CIF	60,000	60,000	60,000	60,000	60,000

Calculate NPV. Discount rate 10% per annum.

UNIT-V

9. a) Define accounting. Distinguish between book keeping and Accounting 7M

   b) 1. Prepare Journal and ledger from the following transactions 7M

   1.1.2014 Gopal started business Rs.10,000

   1.1.2014 Purchased goods from Swathi 500/-

   3.1.2014 Sold goods Rs. 150/-

   10.1.2014 Personal use for cash Rs.200/-

   15.1.2014 Paid wages Rs.100/-

   20.1.2014 Bought furniture from Murali for cash Rs.1,000/-

   31.1.2014 Received commission Rs.50/-

(OR)

10. a) Define Journal. Explain its significance of journal 7M

    b) From the following ledger balances of Jagadish prepare the Trial Balance as on 31st March, 2012. 7M

Particulars	Rs.	Particulars	Rs.
Capital	25,000	Debtors	30,000
Salaries	6,000	Creditors	21,000
Purchases	26,000	Furniture	3,000
Sales	47,000	Machinery	10,000
Trade Expenses	1,000	Insurance	400
Wages	7,800	Bills Receivable	2,000
Freight	400	Bills Payable	6,800
Office Expenses	500	Opening Stock (1-4-2011)	7,000
Discount Received	200		500
Commission	600	Cash in hand	3,600
Bad Debts	1,200	Cash at Bank	

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CODE: 16EE4024   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021
POWER SYSTEM OPERATION AND CONTROL
(Electrical and 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) Write short notes i) Heat rate curve ii) Cost Curve   7
   iii) Incremental fuel cost curve iv) Input output curve.
   b) The fuel inputs per hours of plants 1 and 2 are given as follows: $F_1 = 0.21P_1^2 + 40 P_1 + 100$ 7
   Rs/hr , $F_2 = 0.28 P_2^2 + 20 P_2 + 300$ Rs/hr Determine the economic operating schedule and
   corresponding cost of generation if the maximum and minimum loading of each unit is
   100MW and 25MW and the demand is 170MW, transmission losses are neglected. If the
   load is equally shared by both units, determine the saving obtained by loading the units as
   per equal incremental production cost.

(OR)

2. a) Explain the need of economical load dispatch for a given power system   7
   b) A system consisting of two plants connected by a tie line and load is located at   7
   plant-2. When 100MW is transmitted from plant-1, a loss of 10MW takes place on
   the tie line. Determine the generation schedule at both the plants and the power
   received by load when
   λ of the system is 25Rs/MWh and IFC are given by
   $dC_1/dP_1 = 0.03P_1 + 17$ Rs/MWh, $dC_2/dP_2 = 0.06P_2 + 19$ Rs/MWh.

UNIT-II

3. a) Explain briefly about unit commitment and what are the optimum solution method..   7
   b) Explain the need of unit commitment and its constrains.   7

(OR)

4. Briefly explain about short term problem in hydro-thermal scheduling   14

UNIT-III

5. a) Derive the generator load model and represent its block diagram.   7
   b) What are the parts of speed governing system? Explain in detail.   7

(OR)

6. a) Derive transfer function of steam turbine by making suitable assumptions   7
   b) A 10 MVA synchronous generator operates on full load at a frequency of 50 Hz. The load   7
   is scheduled to 40 MW. Due to time lag in the governor system, the steam valve begins to
   close after 0.4 seconds. Determine the change in frequency that occurs in this time. M = 4
   KW-S/KVA of generator capacity

UNIT-IV

7. Draw the block diagram representation of a single area system and deduce the expression for   14
   the static and dynamic response of the system under uncontrolled case.

(OR)

8. Explain the proportional plus integral control for load frequency control of single area system.   14

UNIT-V

9. a) Describe the effects of connecting the series capacitors in transmission system.   7
   b) Explain the limitations of series compensation.   7

(OR)

10. What is load compensation and explain its objectives in power system. Also mention the   14
    specifications of load compensation

CODE: 16IME4027   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

HEAT TRANSFER
(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) Derive the expression for heat conduction through plane wall assuming that the conductivity of wall varies with respect to Temperature.   10

    b) A Steel plate of thermal conductivity 35 W/m K having dimensions 1m $\times$ 0.5m $\times$ 0.05 m is maintained at 400^0C its top surface. If the surrounding air is at 25^0C and having convective heat transfer coefficient of 20 W/m^{2}K. Calculate the temperature at the bottom of the plate. Assume heat loss by radiation from the surface is 500 watts.   4

(OR)

2. a) Explain critical radios of insulation and derive an expression for the same over a cylinder.   7

    b) A furnace wall consists of three layers. The inner layer of 10 cm thickness is made up of firebrick (k = 1.04 W/m K). The intermediate layer of 25 cm thickness is made of masonry brick (k = 0.69 W/m K) followed by a 5 cm thick concrete wall (k = 1.37 W/m K). When the furnace is in continuous operation the inner surface of the furnace is at 800 °C while the outer concrete surface is at 50 °C. Calculate the rate of heat loss per unit area of the wall, the temperature at the interface of the firebrick and masonry brick and the temperature at the interface of the masonry brick and concrete.   7

UNIT-II

3. a) A plane wall 10 cm thick generates heat at the rate of 4×10^4 W/m^3 when an electric current is passed through it. The convective heat transfer coefficient between each face of the wall and the ambient air is 50 W/m^2 K. Determine   6

    i) The surface temperature
    ii) The maximum temperature in the wall

    Assume the ambient air temperature to be 20 ^{0}C and thermal conductivity of the wall material to be 15 W/m K.

    b) A cylinder 1 m long and 5 cm in diameter is placed in an atmosphere at 45 ^{0}C. It is provided with 5 longitudinal straight fins of material having thermal conductivity 130W/m K. The height of 0.76 mm thick fins is 1.27 cm from the cylinder and h_o of atmospheric air is 17W/m^2 K. Calculate the rate of heat transfer from the fin if the surface temperature of cylinder is 150 ^{0}C   8

(OR)

4. a) Derive the heat dissipation equation through a infinitely long fin. 8
   b) Explain the use of Heislers chart. 6

UNIT-III

5. a) Explain the development of hydrodynamic boundary layer over a flat plate. 6
   b) Atmospheric air at 40 ^{o}C flows over a flat plate of 4 m long maintained at 70 ^{o}C with a velocity of 10 m/s. Calculate the distance from the leading edge at which transition occurs. Find the thickness of the hydrodynamic boundary layer and thermal boundary layer at 0.5 m from the edge. 8

(OR)

6. Air at atmospheric pressure and at 50^0C flows through a tube bundle of in line arrangement having each tube diameter 2 cm and maintained at a uniform temperature of 100^0C. The longitudinal and transverses pitches of the bundle are equal to 4 cm. There are 15 rows in the direction of flow and 10 tubes in each row. The tube length is 1.2 m. The velocity of air entering the tube bank is 8 m/s. Find the heat transfer coefficient and exit temperature of air. 14

UNIT-IV

7. a) Explain the development of boundary layer on a vertical plate on natural convection. 5
   b) Calculate the heat transfer rates by free convection over a 0.4 m high vertical plate maintained at a uniform temperature 80^0C to an ambient 25^0C containing air at 1.0 and 3.0 atm. 9

(OR)

8. a) Distinguish between drop wise and film wise condensation. 5
   b) Derive an expression for effectiveness of counter flow heat exchanger. 9

UNIT-V

9. a) Derive an expression for shape factor between two black bodies. 6
   b) Two circular discs of diameter 50 cm are placed opposite to each other at a distance of 1 m a part. The discs are maintained at 600 ^{o}C and 300 ^{o}C respectively. Calculate the heat transfer between them if (i) both are perfectly black (ii) they are having emissivity 0.8. 8

(OR)

10. a) Define Planck's law Wien's law and Stephen Boltzmann law. 9
    b) Two large parallel planes having emissivites 0.3 and 0.4 are maintained at temperatures 800^0C and 600^0C respectively. A radiation shield of emissivity 0.05 both sides is placed in between. Determine the rate of heat transfer per unit area (i) without shield (ii) with shield. 5

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CODE: 16EC4028   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

DIGITAL IMAGE PROCESSING
(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)	Illustrate the fundamental steps used in general purpose digital image processing system.	7M
	b)	Define and explain the terms 4-adjacent, 8-adjacent and m-adjacent.	7M

(OR)

2.	a)	Explain about the image formation model.	7M
	b)	Explain the concept of how a Gray level image is converted as a binary image.	7M

UNIT-II

3.	a)	Give the advantages of Walsh transform over Fourier transform.	7M
	b)	Obtain 1D Discrete Cosine transform Kernel Coefficients for N=4.	7M

(OR)

4.	a)	Find the kernel coefficients for N=4 of 2-D Hadamard Transform.	7M
	b)	Write DCT transform and explain its properties.	7M

UNIT-III

5.	a)	Explain about various sharpening filters in the frequency domain.	7M
	b)	Show that histogram equalization gives a uniform histogram for continuous images.	7M

(OR)

6.	a)	Explain the need for image enhancement in detail.	7M
	b)	Briefly explain about image enhancement using point processing techniques.	7M

UNIT-IV

7.	a)	Discuss the procedure for conversion from RGB color model to HSI color model.	7M
	b)	Explain about Inverse filtering method for restoring an image.	7M

(OR)

8.	a)	Explain the various color transformation mechanisms in image processing.	7M
	b)	Explain about Least Mean Square Filtering.	7M

UNIT-V

9.	a)	Compare Lossless and Lossy image coding techniques.	7M
	b)	Briefly explain about the method of thresholding based segmentation.	7M

(OR)

10.	a)	Explain the Huffmann coding with a suitable example.	7M
	b)	Discuss the problems encountered with Region and also explain how they can be tackled.	7M

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ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

IMAGE PROCESSING
(Computer Science and 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)	Describe the applications of digital image processing using different electromagnetic band frequencies.	7M
	b)	Distinguish between spatial resolution and grey level resolution.	7M
		(OR)	
2.		Explain all the components of image processing system	14M

UNIT-II

3.	a)	Outline the concept of Histogram processing, Histogram equalization with necessary equations.	7M
	b)	Outline the arithmetic operations on images in spatial domain.	7M
		(OR)	
4.		Discuss Discrete Cosine Transform with necessary equations. Explain how it is advantageous than DFT?	14M

UNIT-III

5.	a)	Explain the following terms 　　a) Opening　b) Closing	7M
	b)	Write a short notes on Hit or miss transformation	7M
		(OR)	
6.		Explain various Morphological algorithms in detail	14M

UNIT-IV

7.		Discuss image compression models with the help of block diagram in detail.	14M
		(OR)	
8.	a)	Explain the concept of psychovisual redundancy in image compression.	7M
	b)	Identify the most popular technique for removing coding redundancy and interpret in detail.	

UNIT-V

9.	a)	Explain the concept of thresholding in image segmentation in detail with necessary equations.	7M
	b)	Explain the concept of region-based segmentation in detail.	7M
		(OR)	
10.		Write a short notes on : a) Point detection　b) Line detection　c) Edge detection	5M 5M 4M

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CODE: 16IT4001   **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, February-2021

MULTIMEDIA APPLICATION DEVELOPMENT
(Information Technology)

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)	Classify the different multi-media systems digital representations.	7 M
	b)	Analyze the vector graphics.	7 M
		(OR)	
2.	a)	Explain about RGB and HSV colour models.	7 M
	b)	Analyze the bitmapped images.	7 M

UNIT-II

3.	a)	Explain in detail about video compression.	7 M
	b)	Discuss about digital video editing and post production.	7 M
		(OR)	
4.	a)	Discuss about streaming video and video conferencing.	7 M
	b)	Explain about digitizing video and video standards.	7 M

UNIT-III

5.	a)	Explain the procedure of processing sound.	10 M
	b)	How to combine sound and picture.	4 M
		(OR)	
6.		Explain the protocol MIDI.	14 M

UNIT-IV

7.	a)	Classify action script 1.0 Vs action script 2.0	7 M
	b)	Demonstrate buttons events with example.	7 M
		(OR)	
8.	a)	Demonstrate movie clips with example.	7 M
	b)	Explain control structures and loops in action script.	7 M

UNIT-V

9.	a)	Discuss about network protocol RSVP.	7 M
	b)	Explain in detail about multicast internet (MBone).	7 M
		(OR)	
10.	a)	List the QOS parameters of multimedia networks?	7 M
	b)	Explain about RTP working model.	7 M

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AR13

CODE: 13CE4029

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Supplementary Examinations, February-2021

GROUND IMPROVEMENT TECHNIQUES
(Elective –2)
(Civil Engineering)

Time: 3 Hours   **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) Why do required dewatering in soil?
   b) What are objectives of grouting?
   c) Which method is used in Impact at ground surface of densifying in granular soil?
   d) Which phenomenon is occurred in densifying of cohesive soil?
   e) Which are soil properties improved in stabilization
   f) What are applications of soil retaining wall?
   g) One of name in field application of filtration.
   h) What are different aperture shapes of geogrids?
   i) What is expansive soil?
   j) What types of foundations are adopted in expansive soil?

PART-B

Answer one question from each unit   **[5x12=60M]**

UNIT-I

2. a) Explain dewatering in soil by single and multistage well point systems with neat sketches
   b) What are the various methods of compaction grouting? And explain its with neat sketches.

(OR)

3. a) Write the effective dewatering systems in cohesive soils? Explain the principle and also write working procedure with help of diagram.
   b) Explain ascending and descending grouting with help of diagrams

UNIT-II

4. a) Explain the method of Impact at depth of densifying the granular soils
   b) Explain the different methods and installing procedure of stone columns with help of diagrams

(OR)

5. a) Explain the method of vibration at depth of densifying the granular soils
   b) Write Advantages of geo-drains over sand drains

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UNIT-III

6. a) Write mixing procedure of soil-lime stabilization in field? And explain each one
   b) Explain the internal stability checks of reinforced earth retaining walls with help of diagrams

(OR)

7. a) What are different chemical are used in stabilization? And explain usage of any one of chemical in stabilization.
   b) What are components of reinforced retaining wall with help of diagrams and explain functions of each component.

UNIT-IV

8. a) What are different functions and field applications of geodrids
   b) Explain the different types of geotextiles

(OR)

9. a) What are different functions and field applications of geomembranes
   b) Explain different functions and field applications of geotextiles

UNIT-V

10. a) Explain any two tests for identification of expansive soil.
    b) Explain about underreamed piles with diagram.

(OR)

11. a) Explain any two foundations are adopted in expansive soil
    b) Explain any three methods for modification of expansive soil.

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CODE: 13ME4026   **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Supplementary Examinations, February-2021
REFRIGERATION AND AIR CONDITIONING
(Mechanical Engineering)

Time: 3 Hours   **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS   **[1 x 10 = 10 M]**

1. a) What is the difference between Refrigeration and Air-conditioning?
    b) State the limitations of air refrigeration cycle.
    c) Write the effect of sub-cooling on refrigerating effect and work of compression.
    d) Clarify whether the following statement is True or False: "Refrigeration is a spontaneous process."
    e) How do the natural refrigerants compare with the synthetic refrigerants?
    f) Define ram efficiency in an air refrigeration cycle.
    g) Define Relative humidity.
    h) Why pressurization of cabin is needed in case of aircraft refrigeration?
    i) Explain the term ``Tonne of refrigeration ``.
    j) Explain Throttling process with reference to Joule Thompson coefficient

PART-B

Answer one question from each unit   **[5x12=60M]**

UNIT-I

2. a) Sketch refrigeration system (Brayton cycle) and corresponding state points on a T-s diagram.   [4 M]
    b) A Bell-Coleman cycle works between 1 bar and 6 bar pressure limits. The compression and expansion indices are 1.25 and 1.3 respectively. Obtain COP and tonnage of unit for an air flow rate of 0.5kg/s. Neglect clearance volume and take temperatures at the beginning of compression and expansion to be 7°C and 37°C, respectively   [8 M]

(OR)

3. a) Differentiate between simple aircraft system and boot strap refrigeration system.   [4 M]
    b) An ice plant produces 2 tonnes of ice per day at -10°C from water at 30°C using 5 kW of power supplied from a thermal power plant having specific coal consumption (SCC) (0.21 kg/s)/MW. Find the COPs based on power and heat from fuel and ice production per kg of coal. Take the heating value of fuel as 15,000 kJ/kg.   [8 M]

UNIT-II

4. a) Explain the different method of improving the COP of simple compression refrigeration cycle.   [4 M]
    b) A Freon 12 vapour compression system operating at a condenser temperature of 40°C and an evaporator temperature of 0°C develops 15 tons of refrigeration. Using the p-h diagram for Freon 12, determine.
    (i) the discharge temperature and mass flow rate of the refrigerant circulated, (ii) the theoretical horsepower of the compressor and horsepower per ton of refrigeration, (iii) the heat rejected in the condenser, and (iv) the Carnot COP and actual COP of the cycle   [8 M]

(OR)

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5. a) Discuss some desired characteristics of a refrigerant. [4 M]

   b) A refrigeration system works between the pressure limits 1.823 and 9.634 bar [8 M] (saturation temperatures -15°C and 40°C respectively) find the area of superheat horn and η_R. The working medium is R-12. Take enthalpy at the end of compression, h_2=210.79 kJ/kg.

Pressure (bar)	Temperature (°C)	Enthalpy (kJ/kg)		Entropy (kJ/kg K)	
		h_f	h_g	s_f	s_g
1.823	-15	22.48	181.17	0.0912	0.7059
9.634	40	76.20	204.87	0.2775	0.6883

UNIT-III

6. a) Compare between a two-fluid and three-fluid vapour absorption system. [4 M]

   b) Draw a neat diagram of lithium bromide water absorption system and explain its working in major field of applications of this system. [8 M]

(OR)

7. a) Derive an expression for the COP of an ideal vapour absorption system in terms of the temperature at which heat is supplied to the generator, the temperature at which heat is absorbed in the evaporator and the temperature at which heat is discharged from condenser and absorber [4 M]

   b) The following data refer to a vapour-absorption system generator temperature is 117°C, condenser (absorber) temperature is 37°C and evaporator temperature is -15°C. If actual COP is 60% of the ideal COP of the system, get the amount of saturated steam supplied to generator at 130°C for 100 ton capacity if condensate leaves the generator at 120°C. [8 M]

UNIT-IV

8. a) Describe briefly the working principle of a pulse tube system [5 M]

   b) Draw a neat sketch and explain working principle of vortex tube refrigeration [7 M]

(OR)

9. a) Explain the phenomena of Seebeck effect and Peltier effect [4 M]

   b) Explain the working principle of thermo-electric refrigeration system. Compare the working of different components of thermo-electric refrigeration system with the working of different components of vapour compression system [8 M]

UNIT-V

10. a) Explain the concept of effective sensible heat factor for room to be air conditioned. How is it useful to find the ADP for fixed room design condition? [4 M]

    b) Following data is available for an air conditioning system comprising of filter, cooling coil, fan and distribution system using only fresh air for the purpose of maintaining comfort conditions in summer. RSH = 11.63 KW, RLH = 2.33 KW. Outside design condition: 28°C DBT, 20°C WBT. Inside design condition: 21°C DBT, 50% RH. Temperature of air entering the room = 11°C. Calculate i) RSHF ii) Coil bypass factor iii) Rate of flow of air kg/hr. iv) Load on cooling coil v) Coil ADP [8 M]

(OR)

11. a) What are the different types of fans used in air-conditioning systems? Discuss their applications and relative advantages and disadvantages. [4 M]

    b) Describe the properties of air viz., DBT, WBT, DPT, SH (Specific Humidity) with neat psychometric chart. [8 M]

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ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Supplementary Examinations, February-2021

IMAGE PROCESSING
(ELECTIVE –II)
(Computer Science& Engineering)

Time: 3 hours   Max.Marks:70

PART A

Answer all Questions   **[1 x 10 = 10M]**

1. a) Define neighbourhood.
   b) What is meant by Gray level resolution?
   c) What is Image enhancement?
   d) What is sharpening filter?
   e) What is meant by fidelity criteria?
   f) Define Lossy compression?
   g) What is Convex Hull?
   h) Define Thickening?
   i) What is edge detection?
   j) What is meant by local thresholding?

PART B

Answer all question from each unit   **[5 x 12=60]**

UNIT -I
2. a. What is DIP? Explain the fundamental steps in DIP   [6M]
   b. Explain about the different components of an IP system.   [6M]
   (OR)
3. a. Discuss various distance measures with examples.   [6M]
   b. Explain various image operations on a pixel basis?   [6M]
UNIT-II
4. Explain in detail about smoothening and sharpening filters?   [12M]
   (OR)
5. What is histogram of an image? Explain Histogram Processing with suitable
   derivations?   [12M]
UNIT-III
6. What is Image Compression? Discuss different types of redundancy?   [12M]
   (OR)
7. a) Explain LZW Coding   [6M]
   b) Explain about the image compression model.   [6M]
UNIT-IV
8. What is Morphological Operation? Discuss various Morphological Operations with
   suitable diagrams.   [12M]
   (OR)
9. Explain about the basic morphological algorithms – boundary extraction, region
   filling, Thinning, Thickening.   [12M]
UNIT -V
10. Explain about detection of discontinuities?   [12M]
    (OR)
11. Explain about a) Region splitting and merging   [6M]
             b) Thresholding   [6M]