



MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. V Semester End Examinations
(Civil Engineering)
(Model Question Paper)

MR-22

Subject Title: Structural Analysis - II
 Time: 3 hours

Subject Code: CE501PC
 Max. Marks : 60

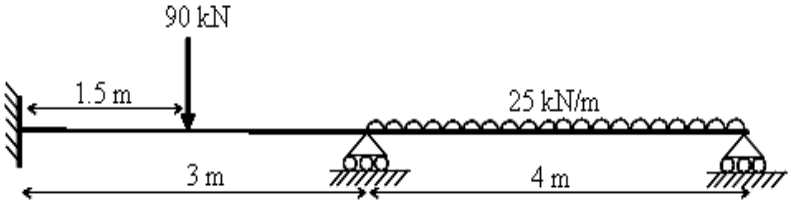
Note: Answer ALL Questions
Part-A (10 x 1 = 10 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	Write the expression for Radial shear at any section of a Two hinged parabolic arch.	1	1	1	1,2,3,12
1. b)	Define the terms 'rotational stiffness' and 'carry over factor', used in the Moment Distribution Method	1	1	1	1,2,3,12
Unit-II					
1. c)	What is meant by 'Rotational Factor' in Kani's method? What is it's value at a fixed end?	1	1	2	1,2,3,12
1. d)	What is a Suspension bridge? What are its components?	1	1	2	1,2,3,12
Unit-III					
1. e)	Define 'Flexibility Coefficient'.	1	1	3	1,2,3,12
1. f)	What is the relation between flexibility and stiffness matrix?	1	1	3	1,2,3,12
Unit-IV					
1. g)	Compare stiffness method and flexibility method.	1	5	4	1,2,3,12
1. h)	Write down the equation of element stiffness matrix as applied to 2D plane element.	1	1	4	1,2,3,12
Unit-V					
1. i)	Explain the importance of influence line diagram.	1	1	5	1,2,3,12
1. j)	Explain Indeterminate Beams.	1	1	5	1,2,3,12

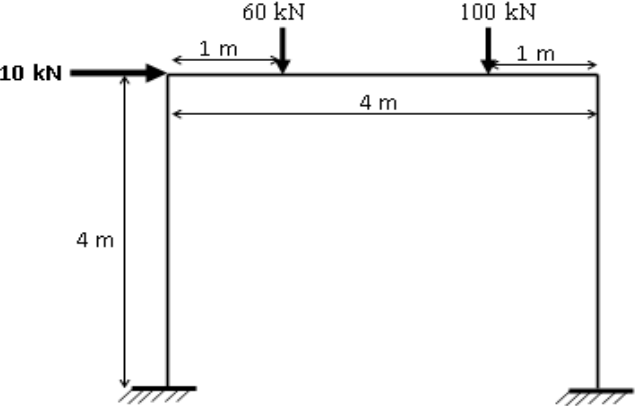
Part-B (5 x 10 = 50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Using the moment-distribution method, analyse the continuous beam supported and loaded as shown in Figure. Also draw bending moment diagrams. <div style="text-align: center;"> </div>	5	4	1	1,2,3,12
2. b)	Evaluate the expression for the horizontal thrust when the two hinged arch is subjected to uniformly distributed load throughout the span.	5	5	1	1,2,3,12
OR					
2. c)	Analyse the portal frame shown in figure below, using Moment distribution method. Draw bending moment diagram and elastic curve.	5	4	1	1,2,3,12

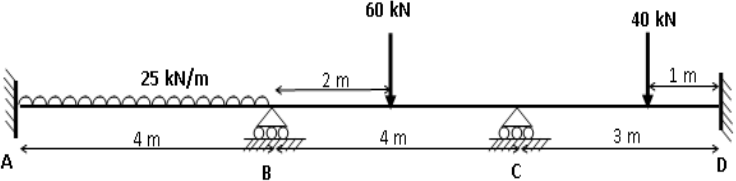
2. d)	Explain secondary stresses in two hinged arches due to temperature and elastic shortening of rib.	5	2	1	1,2,3,12
Unit-II					
3. a)	Analyze the cable which is suspended from two points A and B which are 100 m apart. The point A is 4 m below the point B. The lowest point on the cable is 10 m below the point A. The cable supports an udl of 15 kN/m over its entire span. Find (a) the reactions at the supports A and B and (b) the maximum tension in the cable.	5	4	2	1,2,3,12
3. b)	Explain procedural steps of analyzing indeterminate structure using Kani's method.	5	1	2	1,2,3,12
OR					
3. c)	Using Kani's method, analyse the continuous steel beam supported and loaded as shown in figure , if the support 'C' settles by 20 mm. Assume $I = 30 \times 10^{-5} \text{ m}^4$.	5	4	2	1,2,3,12
3. d)	With neat sketch list out various features of a suspension bridge and explain in detail.	5	1	2	1,2,3,12
Unit-III					
4. a)	Consider pin-jointed plane frame supported and loaded as shown in Figure. Calculate displacement at co-ordinates due to external load using flexibility method.	5	4	3	1,2,3,12
4. b)	For the above figure calculate the final end moments using flexibility method.	5	1	3	1,2,3,12
OR					

4. c)	<p>Analyse the continuous beam shown in the figure using Flexibility Method Calculate displacement at co-ordinates due to external load. Assume constant EI throughout the beam.</p> 	5	1	3	1,2,3,12
4. d)	<p>For the above continuous beam using Flexibility Method Calculate final end moments. Draw bending moment diagrams. Assume constant EI throughout the beam.</p>	5	1	3	1,2,3,12


Unit-IV

5. a)	<p>Using the stiffness method, develop the stiffness matrix for the frame supported and loaded as shown in figure.</p> 	5	1	4	1,2,3,12
5. b)	<p>Using the stiffness method, analyze the frame supported and loaded as shown in figure above. Find final end moments.</p>	5	1	4	1,2,3,12

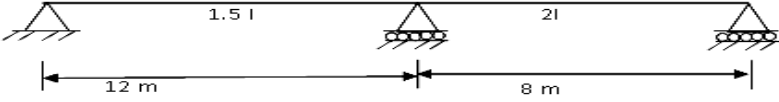
OR

5. c)	<p>Using stiffness method, develop the stiffness matrix for the beam supported and loaded as shown in Figure and. Assume EI is constant.</p> 	5	1	4	1,2,3,12
5. d)	<p>Using stiffness method, analyse the beam supported and loaded as shown in figure above and find final end moments. Assume EI is constant.</p>	5	1	4	1,2,3,12

Unit-V

6. a)	<p>Draw the influence line diagrams for the reaction at support A showing the ordinate at 1m interval for the two-span continuous beam ABC supported as shown in Figure.</p> 	5	1	5	1,2,3,12
6. b)	<p>Consider a propped cantilever beam AB fixed at A and propped at B. Draw the influence line diagrams for the bending moment at A.</p>	5	4	5	1,2,3,12

OR

6. c)	Consider a propped cantilever beam AB fixed at A and propped at B. Draw the influence line diagrams for the reaction at support B.	5	1	5	1,2,3,12
6. d)	<p>Consider a two-span continuous beam ABC supported as shown in Figure. Draw the influence line diagrams for the support moment B. Compute the ordinates at 2 m intervals.</p> 	5	4	5	1,2,3,12

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome



MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. V Semester End Examinations
(Civil Engineering)
(Model Question Paper)

MR-22

Subject Title: Geotechnical Engineering
Time: 3 hours

Subject Code: CE502PC
Max. Marks: 60

Note: Answer ALL Questions
Part-A (10 x 1 = 10 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	Define Void Ratio and Porosity.	1	1	1	3
1. b)	What are the Atterberg's Limits?	1	1	1	3
Unit-II					
1. c)	Discuss the factors affecting the permeability of soil.	1	6	2	3
1. d)	Give the importance of principles of effective stresses in soil.	1	4	2	3
Unit-III					
1. e)	Write the Boussinesq's vertical stress equation.	1	1	3	4
1. f)	Compare standard and modified compaction test.	1	2	3	4
Unit-IV					
1. g)	Differentiate between compaction and consolidation.	1	4	4	3
1. h)	Define degree of consolidation.	1	1	4	3
Unit-V					
1. i)	Explain Mohr Coulombs failure envelope.	1	2	5	4
1. j)	What is shear strength of soil?	1	1	5	4

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Outline briefly the formation of soils.	5	2	1	3
2. b)	Explain the soil three phase system with a neat diagram.	5	1	1	3
OR					
2. c)	Derive the inter-relation between soil moisture content (w), degree of saturation (S), specific gravity (G_s), and void ratio (e).	5	1	1	3
2. d)	A sample of saturated soil in a container weighs 650gm. On drying in an oven in the container it weighs 600gm. The weight of container is 350gm. The grain specific gravity is 2.65. Determine the void ratio, water content, and bulk unit weight.	5	5	1	3
Unit-II					
3. a)	Discuss any one laboratory method in detail for determination of coefficient permeability of soil.	5	3	2	3
3. b)	The falling head permeability test was conducted on a soil sample of 4cm diameter and 18cm length. The head fell from 100cm to 40cm in 20 minutes. If the cross-sectional area of the stand pipe was 1cm^2 , determine the coefficient of permeability.	5	1	2	3
OR					
3. c)	Elaborate the significance of capillary rise in soil.	5	6	2	3
3. d)	Explain the characteristics and uses flow net analysis of soil.	5	1	2	3
Unit-III					
4. a)	Discuss the effect of compaction on various engineering properties of soils.	5	6	3	4
4. b)	Explain the Standard Proctor's compaction test in detail.	5	1	3	4
OR					
4. c)	Elaborate the significance of capillary rise in soil.	5	6	2	3
4. d)	Explain the characteristics and uses flow net analysis of soil.	5	1	2	3

Unit-IV					
5. a)	Discuss the effect of compaction on various engineering properties of soils.	5	6	3	4
5. b)	Explain the Standard Proctor's compaction test in detail.	5	1	3	4
OR					
5. c)	Explain the computation of total settlement in soil.	5	1	4	3
5. d)	A clay layer of 8 m thick with single drainage settles by 120 mm in 2 years. The co-efficient of consolidation for this clay was found to be $6 \times 10^{-3} \text{ cm}^2/\text{sec}$. Calculate the likely ultimate consolidation settlement and find out how long it will take to undergo 90 % of this ultimate settlement.	5	3	4	3
Unit-V					
6. a)	In an in-situ vane shear test on a saturated clay, a torque of 35 Nm was required to shear the soil. The diameter of the vane was 50 mm and length 100 mm. Calculate the undrained shear strength of the clay. The vane was then rotated rapidly to cause remoulding of the soil. The torque required to shear the soil in the remoulded state was 5 Nm. Determine the sensitivity of the clay.	5	1	5	4
6. b)	A direct shear test was performed on 60 mm x 60 mm sample of dry sand. The normal load was 360 N. The failure occurred at a shear load of 180 N. Plot the Mohr strength envelope and determine ϕ . Assume $c = 0$. Also, Identify the principal stresses at failure.	5	3	5	4
OR					
6. c)	Classify the types of shear test based on drainage conditions?	5	2	5	4
6. d)	Explain the merits and demerits of triaxial test over direct shear test.	5	2	5	4

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. V Semester End Examinations
(Civil Engineering)
(Model Question Paper)

MR-22

Subject Title: Structural Engineering-I (RCC)

Subject Code: CE503PC

Time: 3 hours

Max. Marks: 60

Note: Use of IS 456:2000 and interaction diagram for columns from sp-16 is permitted.

Note: Answer ALL Questions

Part-A (10 x 1 = 10 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	List the different load combinations used in Limit state method as per IS 456:2000.	1	1	1	1,2
1. b)	List the different limit state methods of design.	1	1	1	1,2
Unit-II					
1. c)	What is the significance of development length in RCC members?	1	1	2	1,2
1. d)	What is critical neutral axis.	1	1	2	1,2
Unit-III					
1. e)	Distinguish between one way and two way slabs.	1	2	3	1,2
1. f)	What is the significance of distribution steel in one way slabs?	1	1	3	1,2
Unit-IV					
1. g)	What are the functions of transverse reinforcement in reinforced concrete column?	1	1	4	1,2
1. h)	List the various types of transverse reinforcement provided in columns.	1	1	4	1,2
Unit-V					
1. i)	What is the necessity of a combined footing?	1	1	5	1,2
1. j)	Explain one way shear in footings	1	2	5	1,2

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Derive Stress Block Parameters as per the Limit State Method	5	3	1	1,2
2. b)	Explain balanced under reinforced and over, reinforced sections as per Limit state method.	5	2	1	1,2
OR					
2. c)	Distinguish between working stress and Limit state method of design.	5	2	1	1,2
2. d)	The cross-section of an RCC beam of rectangular section is to be designed to resist a bending moment of 65 kNm. Assuming the width of beam as half the effective depth, Compute the dimensions of the beam and the area of tension reinforcement for the balanced section. Use M20 grade Concrete and Fe 500 grade HYSD bars. Adopt Limit State Method of design	5	4	1	1,2
Unit-II					
3. a)	Explain various shear failures in beams.	5	2	2	1,2
3. b)	A simply supported beam of 5.5 m effective span, is to carry a uniformly distributed load (dead load) of 35 kN/m including its self weight, and a live load of 40 kN/m. Design the beam for shear using Limit state method. Use M35 concrete and Fe 500 grade steel. Sketch the reinforcement details	5	6	2	1,2
OR					
3. c)	Explain in detail bond, anchorage and development length with IS code specifications in reinforced concrete structures	5	2	2	1,2
3. d)	Explain in detail the procedure to calculate moment of resistance of T beams.	5	2	2	1,2

P.T.O.

Unit-III					
4. a)	Calculate the reinforcement required for a simply supported RCC slab for a room of clear dimensions 3.5 m×6.5 m subjected to live load of 3 kN/m ² and floor finish of 1.5 kN/m ² . Assume the width of the supports is 230 mm. Use M 25 concrete and Fe 500 steel.	5	3	3	1,2
4. b)	Sketch the reinforcement of the slab designed in the above question .Explain edge and middle strips of a two way slab with neat sketches.	5	2	3	1,2
OR					
4. c)	What is the importance of calculation of short term deflection, long term deflection and crack width and list out the parameters Influencing the crack width and deflection of beams	5	1	3	1,2
4. d)	Design a dog legged staircase for an office building, given the following data: Height between floor = 3.2m; Riser = 160mm, Tread = 270mm; Width of flight = 1.25m; Live load = 5kN/m ² ; Finishes load = 0.6kN/m ² . Assume the stairs to be supported on 230mm thick masonry walls at the outer edges of the landing, parallel to the risers. Adopt mild exposure with M20 grade concrete & Fe415 steel.	5	2	3	1,2
Unit-IV					
5. a)	Calculate the dimensions and reinforcement required for an axially loaded tied column with an unsupported length of 4 m. The column is fixed at one end and pinned at the other end. The column has to carry a factored load of 2000 kN. Use M 35 grade concrete and Fe 500 grade steel. Assume moderate exposure condition.	5	3	4	1,2
5. b)	Sketch the reinforcement details of the column designed in the above question. Distinguish between helical and hoop reinforcement.	5	2	4	1,2
OR					
5. c)	Distinguish between long column and short column.	5	2	4	1,2
5. d)	A column 300 mm × 450 mm has an effective length of 4 m. It is subjected to an ultimate load of 1800 kN and an ultimate moment of 350 kNm about its major axis. Compute the longitudinal and transverse reinforcement. Use M30 concrete and Fe 500 grade steel. Assume moderate exposure condition. Sketch the cross-section showing reinforcement details	5	4	4	1,2
Unit-V					
6. a)	List the locations of critical section for bending and one way shear in footings.	5	1	5	1,2
6. b)	Compute the dimensions and reinforcement required for a reinforced concrete footing for a rectangular column of section 300 mm by 500 mm supporting an axial factored load of 1500 kN. The SBC of the soil at site is 185kN/m ² . Adopt M20 grade concrete and Fe415 grade steel.	5	4	5	1,2
OR					
6. c)	Compute the dimensions required for a combined footing for two columns each of size 400 mm×400 mm and spaced at 4.2 m centre-to-centre. Each column is required to support an ultimate load of 900 kN. The safe bearing capacity of the soil is 160 kN/m ² . Draw the reinforcement details.	5	4	5	1,2
6. d)	Explain the design procedure for combined footing.	5	2	5	1,2

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech. V Semester End Examinations
(Civil Engineering)
(Model Question Paper)

MR-22

Subject Title: Transportation Engineering

Time: 3 hours

Subject Code: CE504PC

Max. Marks : 60

Note: Answer ALL Questions

Part-A (10 x 1 = 10 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	List layers of flexible pavements.	1	4	1	1,6
1. b)	List requirements for an ideal road.	1	4	1	1,6
Unit-II					
1. c)	Define alignment.	1	1	2	1,2,3
1. d)	Define super elevation.	1	1	2	1,2,3
Unit-III					
1. e)	List basic traffic characteristics.	1	4	3	1,2,6
1. f)	Define spot speed.	1	1	3	1,2,6
Unit-IV					
1. g)	Define flakiness of an aggregate.	1	1	4	1,8
1. h)	Define ductility bitumen.	1	1	4	1,8
Unit-V					
1. i)	List types of pavements.	1	4	5	1,2,12
1. j)	Define overlay.	1	1	5	1,2,12

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	List characteristics of roads and explain about it.	5	4	1	1,6
2. b)	Explain about Jayakar's committee recommendations.	5	2	1	1,6
OR					
2. c)	Explain about engineering surveys of highway alignment.	5	2	1	1,6
2. d)	Outline drawings and reports required for highways.	5	2	1	1,6
Unit-II					
3. a)	Develop equation of the stopping sight distance.	5	6	2	1,2,3
3. b)	For a highway with design speed of 100 kmph, Find safe overtaking sight distance. (assume acceleration as 0.53 m/s^2).	5	1	2	1,2,3
OR					
3. c)	What is the extra widening required (as nearest magnitude) for a pavement of 7 m width on a horizontal curve of radius 200 m, if the longest wheel of vehicle expected on the road is 6.5 m and the design speed is 65 km/h?	5	1	2	1,2,3
3. d)	Develop equation of the super elevation.	5	6	2	1,2,3
Unit-III					
4. a)	Explain relationship between flow, speed and concentration with a neat sketch.	5	2	3	1,2,6
4. b)	List the factors affecting capacity and LOS and explain about it.	5	4	3	1,2,6
OR					
4. c)	List different types of parking and explain any one in detail.	5	4	3	1,2,6
4. d)	If the normal flows on two approach roads at an intersection are respectively 500 pcu per hr and 300 pcu per hr, the saturation flows are 1600 pcu per hr on each road the total lost time per signal cycle is 16s, then find the optimum cycle time by Webster's method.	5	1	3	1,2,6

P.T.O.

Unit-IV					
5. a)	List the tests on aggregates and explain any one.	5	4	4	1,8
5. b)	Explain CBR test in detail.	5	2	4	1,8
OR					
5. c)	List the tests on bitumen and explain any one.	5	4	4	1,8
5. d)	Explain about polymer modified bitumen's.	5	2	4	1,8
Unit-V					
6. a)	Explain design procedure of flexible pavements.	5	2	5	1,2,12
6. b)	Explain about factors controlling rigid pavement design.	5	2	5	1,2,12
OR					
6. c)	Explain design procedure of rigid pavements.	5	2	5	1,2,12
6. d)	List types of overlays and explain any one.	5	4	5	1,2,12

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MAHATMA GANDHI INSTITUTE OF TECHNOLOGY (Autonomous)
B.Tech.V Semester End Examinations
(Civil Engineering)
(Model Question Paper)

MR-22

Subject Title: Hydrology and Water Resources Engineering
Time: 3 hours

Subject Code: CE505PC
Max. Marks: 60

Note: Answer ALL Questions
Part-A (10 x 1 = 10 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	Outline the concept of hydrologic cycle	1	2	1	1,4,6
1. b)	Compare recording and non-recording types	1	4	1	1,4,6
Unit-II					
1. c)	Distinguish between evaporation and evapotranspiration	1	4	2	1,4,6
1. d)	Define interception and depression storage	1	1	2	1,4,6
Unit-III					
1. e)	Identify components of hydrograph	1	3	3	1,2,6
1. f)	List various components of runoff.	1	1	3	1,2,6
Unit-IV					
1. g)	Classify the aquifers.	1	2	4	1,2,6
1. h)	List various methods of irrigation.	1	1	4	1,2,6
Unit-V					
1. i)	Define balancing depth of cutting	1	1	5	1,2,6
1. j)	Discuss the causes of water logging	1	6	5	1,2,6

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Explain the working of a float type rain gauge with the help of a neat sketch	5	2	1	1,4,6
2. b)	The average annual rainfalls at 4 existing rain gauge stations in a basin are 105, 79, 70 and 66cms. If the average depth of rainfalls over the basin is to be estimated within 10% error, Analyse the additional number of gauges needed.	5	4	1	1,4,6
OR					
2. c)	How inconsistency in record is corrected using double mass curve technique	5	1	1	1,4,6
2. d)	Compare the three methods of determining the average depth of rainfall in an area	5	4	1	1,4,6
Unit-II					
3. a)	Explain various factors affecting evaporation in detail.	5	2	2	1,4,6
3. b)	The total observed runoff volume during a 6hr storm with a uniform intensity of 1.5cm/h is $21.6 \times 10^6 \text{m}^3$. If the area of the basin is 300km^2 , find the average infiltration rate for the basin.	5	1	2	1,4,6
OR					
3. c)	Explain the measurement of Evapotranspiration by lysimeter.	5	2	2	1,4,6
3. d)	Analyse the evaporation if 4.75 litres of water is removed from an evaporation pan of diameter 1.22m and the simultaneous rainfall measurement is 8.8mm.	5	3	2	1,4,6
Unit-III					
4. a)	Explain various factors affecting runoff in detail.	5	2	3	1,2,6

P.T.O.

4. b)	Time (hr)	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	5	1	3	1,2,6
	3hr UGO (cumec)	0	9	20	35	49	43	35	28	22	17	12	9	6	3	0	0				
Find 6 hour UHG by lagging method.																					
OR																					
4. c)	Define unit hydrograph. What are the assumptions underlying the unit hydrograph theory.																	5	1	3	1,2,6
4. d)	Elaborate the procedure for conversion from one unit duration to other unit duration using S curve technique.																	5	5	3	1,2,6
Unit-IV																					
5. a)	Develop an equation of discharge for steady radial flow in a confined aquifer																	5	3	4	1,2,6
5. b)	A 30-cm well completely penetrates an unconfined aquifer of saturated depth 40m. after a long period of pumping at a steady rate of 1500 L / min, the drawdown in two observation wells 25 and 75m from the pumping well were found to be 3.5 and 2.0m respectively. Analyse the transmissivity of the aquifer.																	5	4	4	1,2,6
OR																					
5. c)	Show that the relation between duty, delta and base period for a crop is given by $\Delta = 8.64 B / D$.																	5	2	4	1,2,6
5. d)	The following data pertains to the healthy growth of a crop. Field capacity of soil=30%, Permanent wilting point=11%, Density of soil=1300kg/m ³ , Effective depth of root zone is 700mm, Daily consumptive use of water for the given crop=12mm. For healthy growth, the water content must not fall below 25% of the water holding capacity between field capacity and permanent wilting point. Analyse the watering interval in days.																	5	4	4	1,2,6
Unit-V																					
6. a)	Classify the canals under various considerations.																	5	4	5	1,2,6
6. b)	Analyse an irrigation channel in alluvial soil according to Lacey's silt theory for the following data: Full supply discharge=10cumec, Lacey's silt factor=0.9 Side slopes of channel=0.5H:1V																	5	5	5	1,2,6
OR																					
6. c)	Explain various types of lining and write their advantages.																	5	2	5	1,2,6
6. d)	Summarize the differences between Kennedy's method and Lacey's method of design of unlined canals																	5	2	5	1,2,6

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

*Note: Answer ALL Questions**Part-A (10 x 1 = 10 Marks)*

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
1. a)	Define Business Economics	1	1	1	1
1. b)	What is meant by National Income?	1	1	1	7
Unit-II					
1. c)	Describe Cross Elasticity of Demand	1	2	2	12
1. d)	What are the Determinants of supply?	1	1	2	7
Unit-III					
1. e)	Explain Monopolistic Competition	1	2	3	7
1. f)	What is meant by Marginal Cost?	1	1	3	11
Unit-IV					
1. g)	Describe Accounting Equation	1	2	4	11
1. h)	What is meant by Materiality Convention?	1	1	4	8
Unit-V					
1. i)	Explain Liquidity	1	2	5	11
1. j)	List Profitability ratios	1	1	5	11

Part-B (5 x 10=50 Marks)

Q. No.	Stem of the Question	M	L	CO	PO
Unit-I					
2. a)	Explain different sources of capital.	5	2	1	1
2. b)	Describe the advantages and disadvantages of sole proprietorship.	5	2	1	7
OR					
2. c)	Explain the nature and scope of Business Economics.	5	2	1	7
2. d)	Differentiate between Private Limited Companies and Public Limited Companies	5	4	1	7
Unit-II					
3. a)	Describe Law of Demand and its exceptions	5	2	2	11
3. b)	Explain the Determinants of Supply and supply function.	5	2	2	7
OR2					
3. c)	The quantity demanded for the product X is 30 units, when the price is Rs.15. The quantity demanded increased to 40 units, as price decreased to Rs. 10. Compute Price Elasticity of demand.	5	3	2	2
3. d)	Explain different methods of Demand Forecasting	5	2	2	12
Unit-III					
4. a)	How can a producer determine the least-cost combination of inputs?	5	1	3	3
4. b)	Differentiate between perfect competition and monopoly competition.	5	4	3	8
OR					
4. c)	Explain Law of Variable Proportions with the help of graph.	5	2	3	7
4. d)	Describe various Pricing strategies used by modern business organizations.	5	2	3	5
Unit-IV					
5. a)	Classify the following accounts into various (Personal, Real or Nominal) types of accounts. i) Salary account ii) Outstanding wages account iii) Rent account	5	2	4	11

	iv) Bank account v) Insurance prepaid vi) Drawings account vii) Bad debts account viii) Machinery account ix) Furniture account x) Patents account																																																													
5. b)	Journalise the following transactions: Jan 1, 2021 Commenced with Cash Rs. 8,00,000 Jan 3, 2021 Purchased Goods worth Rs. 1,50,000 Jan 8, 2021 Sold Goods to Mr. Ramu Rs. 1,10,000 Jan 30, 2021 Salaries paid Rs. 40,000 Jan 30, 2021 Rent paid Rs. 20,000	5	3	4	11																																																									
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5. c)	Explain Double Entry System and its advantages	5	2	4	11																																																									
5. d)	Prepare Trading and Profit and Loss account from the following information. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3" style="text-align: center;">Trial Balance as on 31.03.2021</th> </tr> <tr> <th style="text-align: center;">Particulars</th> <th style="text-align: center;">Debit(₹)</th> <th style="text-align: center;">Credit(₹)</th> </tr> </thead> <tbody> <tr> <td>Capital</td> <td></td> <td style="text-align: right;">1,00,000</td> </tr> <tr> <td>Purchases</td> <td style="text-align: right;">40,000</td> <td></td> </tr> <tr> <td>Furniture</td> <td style="text-align: right;">30,000</td> <td></td> </tr> <tr> <td>Interest received</td> <td></td> <td style="text-align: right;">3,000</td> </tr> <tr> <td>Cash</td> <td style="text-align: right;">15,000</td> <td></td> </tr> <tr> <td>Debtors</td> <td style="text-align: right;">27,000</td> <td></td> </tr> <tr> <td>Office Stationery</td> <td style="text-align: right;">3,000</td> <td></td> </tr> <tr> <td>Machinery</td> <td style="text-align: right;">70,000</td> <td></td> </tr> <tr> <td>Bank Loan</td> <td></td> <td style="text-align: right;">5,000</td> </tr> <tr> <td>Bills Payable</td> <td></td> <td style="text-align: right;">2,000</td> </tr> <tr> <td>Opening Stock</td> <td style="text-align: right;">10,000</td> <td></td> </tr> <tr> <td>Sales</td> <td></td> <td style="text-align: right;">90,000</td> </tr> <tr> <td>Wages paid</td> <td style="text-align: right;">600</td> <td></td> </tr> <tr> <td>Salaries paid</td> <td style="text-align: right;">2,500</td> <td></td> </tr> <tr> <td>Electricity charges</td> <td style="text-align: right;">1,200</td> <td></td> </tr> <tr> <td>Insurance paid</td> <td style="text-align: right;">700</td> <td></td> </tr> <tr> <td style="text-align: right;">Total</td> <td style="text-align: right;">2,00,000</td> <td style="text-align: right;">2,00,000</td> </tr> </tbody> </table> <p>Adjustments: i) Closing Stock ₹ 12,000 ii) Depreciate Machinery @10% p.a. iii) Salaries outstanding ₹ 500</p>	Trial Balance as on 31.03.2021			Particulars	Debit(₹)	Credit(₹)	Capital		1,00,000	Purchases	40,000		Furniture	30,000		Interest received		3,000	Cash	15,000		Debtors	27,000		Office Stationery	3,000		Machinery	70,000		Bank Loan		5,000	Bills Payable		2,000	Opening Stock	10,000		Sales		90,000	Wages paid	600		Salaries paid	2,500		Electricity charges	1,200		Insurance paid	700		Total	2,00,000	2,00,000	5	3	4	11
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6. a)	How accounting ratios are useful in the inter-firm comparison.	5	1	5	10																																																									
6. b)	From the given Balance Sheet calculate: a) Debt-equity ratio b) Liquidity ratio c) Fixed assets to current assets ratio and d) Fixed assets to Net worth ratio. <div style="text-align: right; margin-right: 20px;">Balance Sheet</div> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Liabilities</th> <th style="text-align: center;">Rs.</th> <th style="text-align: left;">Assets</th> <th style="text-align: center;">Rs.</th> </tr> </thead> <tbody> <tr> <td>Share Capital</td> <td style="text-align: center;">1,00,000</td> <td>Goodwill</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">60,000</td> </tr> </tbody> </table>	Liabilities	Rs.	Assets	Rs.	Share Capital	1,00,000	Goodwill			0		60,000	5	3	5	10																																													
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	Retained Earnings	10,000	Machinery	1,00,000				
	Profit and loss a/c	40,000	Stock	30,000				
	Secured loans	80,000	Debtors	70,000				
	Creditors	40,000	Furniture	10,000				
	Provision for taxation	30,000	Cash	30,000				
		3,00,000		3,00,000				

OR

6. c)	Differentiate Liquidity ratios and leverage ratios.	5	4	5	11																																												
6. d)	The Balance Sheet of ABC Limited as on 31-03-2018 was as follows:	5	3	5	11																																												
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M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome