		Module – 3			
5	a.	Explain the finite difference formulation of differential equation of 1 – dimensional steady heat conduction.	**10**	**L2**	**CO1**
	b.	What are the limitations of analytical solution used in the engineering problem? Discuss the advantages of numerical method over analytical method.	**10**	**L2**	**CO1**
		OR			
6	a.	Define solid angle and intensity of radiation and show that $E = \pi I$ where, E = Total emissive power and I = Intensity of radiation.	**10**	**L1, 2**	**CO3**
	b.	Two large parallel plates at temperature 1000 k and 600 k have emissivity of 0.5 and 0.8 respectively. A radiation shield having emissivity 0.1 one side and 0.05 on the other side is placed between the plates. Calculate the heat transfer rate by radiation per square meter with and without radiation shield.	**10**	**L3**	**CO3**
		Module – 4			
7	a.	With a neat sketch explain velocity boundary layer and thermal boundary layer for a flow over a flat plate.	**8**	**L1**	**CO2**
	b.	Define the following and write its significances: i) Reynold's Number ii) Prondtl Number	**6**	**L1**	**CO2**
	c.	Write the procedure, tabular column and corresponding equations to determine the heat transfer co-efficient in e forced convection.	**6**	**L3**	**CO2**
		OR			
8	a.	Air at velocity of 3 m/s and at 20°C flows over a flat plate along its length. The length width and thickness of the plate are 100cm, 50 cm and 2 cm respectively. The top surface of the plate is maintained at 100° C. Calculate the heat lost by the plate.	**10**	**L3**	**CO2**
	b.	Consider a rectangular plate 0.2 m × 0.4 m is maintained at a uniform temperature of 80° C. It is placed in atmospheric air at 20°C. Calculate the heat transfer rate from the plate by considering plate is placed as vertical and its height is 0.4 m.	**10**	**L3**	**CO2**
		Module – 5			
9	a.	Explain Drop wise and Film wise condensation with neat sketch.	**6**	**L1**	**CO4**
	b.	With neat sketch explain the regimes of pool boiling.	**6**	**L1**	**CO4**
	c.	The outer surface of a vertical tube 80 mm in outer diameter and 1 m long is exposed to saturated steam at atmospheric pressure. The tube surface is maintained at 50°C by flow of water through the tube. What is the rate of heat transfer to coolant. Take h_{fg} = 2257 kJ/kg, ρ = 975 kg/m^3, ρ_v = 0.596kg/m^3, k_f = 0.668 w/mk, $\mu_L = 375 \times 10^{-6}$ per sec.	**8**	**L3**	**CO4**
		OR			
10	a.	Derive an expression for Log Mean Temperature Difference (LMTD) for parallel flow heat exchanger. State the assumptions mode.	**10**	**L2**	**CO4**
	b.	Consider the following parallel flow heat exchanger specifications Cold flow enters at 40°C. $M_h C_{p_c} = C_c = 20000 \frac{w}{k}$ Hot flow enters at 150°C : $M_h C_{ph} = C_h = 10000 \frac{w}{k}$ $A = 30 m^2, U = 500 \frac{w}{m^2 k}$ Determine the heat transfer rate and the exit temperatures.	**10**	**L3**	**CO4**

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CBCS SCHEME - Make-Up Exam

USN | | | | | | | | | | |

BME654A

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025
Project Management

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Project. Explain the key characteristics of project.	7	L2	CO1
	b.	Summarize the different process groups and knowledge areas chosen by PMBOK.	7	L2	CO1
	c.	Identify the different roles involved in project management.	6	L2	CO1
		OR			
Q.2	a.	Illustrate the various types of projects with examples.	5	L2	CO1
	b.	List and describe each step in the strategic planning process.	10	L1	CO1
	c.	Explain the importance of prioritizing projects in an organization.	5	L2	CO1
		Module – 2			
Q.3	a.	With suitable example articulate the steps involved in defining a project scope.	10	L2	CO1
	b.	Construct a WBS for a project in which you plan an event in your campus.	10	L3	CO2
		OR			
Q.4	a.	Describe Gantt chart. With an example show the project schedule on a Gantt Chart.	10	L2	CO3
	b.	Analyse and interpret the methods that can be used to manage uncertainty in project schedules.	10	L4	CO3
		Module – 3			
Q.5	a.	Explain the abilities needed when resourcing a project.	7	L2	CO3
	b.	Describe the steps involved in creating a staffing management plan.	7	L2	CO3
	c.	What are the common challenges in project team composition? How they can be addressed.	6	L1	CO3
		OR			
Q.6	a.	Summarize and outline the different strategies for responding to risks.	7	L2	CO4
	b.	Explain the steps involved in setting a baseline in M.S project.	7	L2	CO4
	c.	Illustrate the DMAIC mythology for achieving quality improvement.	6	L2	CO4