

Name: Roll No:

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: BAS-202 Sub. Name: Engg. Chemistry
 Year: B.Tech. Year Branch: CSE/CSE-DS/CSE-AI

PUT EXAMINATION (EVEN SEMESTER 2022-23)
[Time: 3 Hours] [Total Marks: 70]

COURSE OUTCOMES

CO1	Develop understanding of the sources, impurities and hardness of water, apply the concepts of determination of calorific values and analyze the coal. [KL-3]
CO2	Develop the understanding of Chemical structure of polymers and its effect on their various properties when used as engineering materials. Understanding the applications of specific polymers and Chemistry applicable in industrial process. [KL-3]
CO3	Get an understanding of the theoretical principles of chemistry of molecular structure, bonding and properties, Chemistry of advanced materials (liquid crystals, an materials, Graphitic & Fullerene) as well as the Principles of Green Chemistry [KL-3]
CO4	Utilize the theory of construction of electrodes, batteries and fuel cells in redesigning new engineering products and categorize the reasons for corrosion and study methods to control corrosion and develop understanding of Chemistry of Engineering materials (Cement). [KL-3]
CO5	Apply the fundamental concepts of determination of structure with various spectral techniques and stereochemistry. [KL-4]

SECTION-A

1. Attempt all parts:

2×7=14

a.	What is the difference between Gross calorific value and Net calorific value of a fuel?	CO1
b.	A sample of hard water has hardness 500 PPM. Express the hardness in ^o fr and ^o Cl.	CO1
c.	Define biodegradable polymers? Give suitable example.	CO2
d.	What is the difference between thermoplastics and thermosetting Polymer? Give suitable example	CO2
e.	Compare and arrange the following in increase order of stability: N ₂ , N ₂ ⁺ , and N ₂ ⁻	CO3
f.	Explain what is nanotechnology? Write its applications	CO3
g.	What are Chromospheres and Auxochromes? Give example.	CO4

SECTION-B

2. Attempt any three parts:

7×3=21

a.	Explain the Zeolite process of water softening? The hardness of 10,000L of a sample of water was removed by passing it through a zeolite softener. The zeolite softener then required 200 L of NaCl solution containing 150 gm/l. of NaCl for regeneration. Find the hardness of water sample	CO1
b.	Explain what are composites? Give their classification and its advantages	CO2
c.	Calculate the bond order of the following and comment on the stability and magnetic behavior: O ₂ ⁺ , O ₂ , O ₂ ⁻	CO3
d.	Give reactions of lead acid storage cell when it behaves like a galvanic cell.	CO4
e.	Write the principle of IR Spectroscopy and explain the significance of Finger print region?	CO5

SECTION-C

3. Attempt any one

7×1=7

a.	What are ion exchangers? With the help of neat sketch, discuss ion-exchange process of water softening.	CO1
b.	Calculate the amount of lime and soda required for the treatment of 50,000 litres of water whose analysis is as follow. Ca (HCO ₃) ₂ = 9.2 ppm; Mg (HCO ₃) ₂ = 7.9 ppm; CaSO ₄ = 15.3 ppm; MgSO ₄ = 15 ppm; MgCl ₂ = 3.0 ppm.	CO1

4. Attempt any one part

7×1=7

a.	Give the preparation, properties and applications of following polymers: NBR, Thiokol, Terylene, Lucite and Kevlar	CO2
b.	Describe what are conducting polymers? How many types of conducting polymers? Give their applications	CO2

5. Attempt any one

7×1=7

a.	What is liquid crystal? Difference between Nematic liquid crystal and Smectic liquid crystal. Write their application.	CO3
b.	A sample of coal contains 60% Carbon, 33% Oxygen, 6.0% Hydrogen, 0.5% Sulphur, 0.2% Nitrogen and 0.3% Ash. Calculate GCV and NCV of coal...	CO3

6. Attempt any one

7×1=7

a.	Describe the mechanism of electrochemical theory of corrosion by absorption of oxygen and hydrogen of evaluation mechanism.	CO4
b.	What is the Portland cement? Write the chemical reactions involved in manufacture of the portland cement.	CO4

7. Attempt any one

7×1=7

a.	Describe the principle of UV-spectroscopy and various types of electronic transitions.	CO5
b.	What is the optical activity? Give the stereo isomers of Tartaric. How do you account for lack of optical activity in meso-forms and racemic mixtures	CO5

Name: Roll No:

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: KAS 402. Sub. Name: MATHS IV
 Year: 2YR Branch: CSE/AI/DS

PUT EXAMINATION (EVEN SEMESTER 2022-23)
[Time: 3 Hours] [Total Marks: 100]

COURSE OUTCOMES

CO1	The idea of partial differentiation and types of partial differential equations
CO2	The idea of classification of second partial differential equations, wave, heat equation and transmission lines
CO3	The basic ideas of statistics including measures of central tendency, correlation, regression and their properties.
CO4	The idea's of probability and random variables and various discrete and continuous probability distributions and their properties
CO5	The statistical methods of studying data samples, hypothesis testing and statistical quality control, control charts and their properties.

SECTION-A

1. Attempt all parts: **2 × 10 = 20**

a.	Solve $p + q = 1$	CO1
b.	Form the partial differential equation by eliminating the arbitrary function(s) from the following: $Z = f(x^2 - y^2)$	CO1
c.	Classify the following partial differential equation: $(5D^2 - 9DD' + 4D'^2)z = 0$.	CO2
d.	Write down the heat and two dimensional wave equation.	CO2
e.	If mean is 16 and median is 20 find mode.	CO3
f.	The first three central moments of distribution are 0, 15, -31. Find the moment coefficient of skewness.	CO3
g.	Calculate coefficient of correlation from the following results $n=10, \sum X = 100, \sum Y = 150, \sum(X - 10)^2 = 180, \sum(Y - 10)^2 = 215, \sum(X - 10)(Y - 15) = 60$.	CO4

[Signature]
 Director

h.	Find mean of Binomial distribution.	CO4
i.	Explain 't-test' for small samples.	CO5
j.	Write the formula of UCL and LCL for np and mean control chart.	CO5

SECTION-B

2. Attempt any three parts: **10 × 3 = 30**

a	Solve the following differential equations: (i) $(mz - ny)p + (nx - lz)q = ly - mx$ (ii) $(D^3 - 4D^2D' + 4DD'^2)z = 6 \sin(3x + 2y)$	CO1																						
b	Solve: $\frac{\partial u}{\partial t} = k \frac{\partial^2 u}{\partial x^2}$ under the condition a. $u \neq \infty$ if $t \rightarrow \infty$, $b. \frac{\partial u}{\partial x} = 0$ for $x = 0$ and $x = l$. b. $u = lx - x^2$ for $t = 0$ between $x = 0$ and $x = l$.	CO2																						
c	In a partially destroyed laboratory record of an analysis of a correlation data, the following results only are legible: Variance of $x = 9$ Regression equations: $8x - 10y + 66 = 0, 40x - 18y = 214$. What were (a) the mean values of x and y (b) the standard deviation of y and the coefficient of correlation between x and y ?	CO3																						
d.	The following table gives the no. of days in a 50 day period during which automobile accidents occurred in a city: <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>No. of accidents</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>No. of days</td> <td>21</td> <td>18</td> <td>7</td> <td>3</td> <td>1</td> </tr> </table> Fit a Poisson distribution to the data and calculate theoretical frequencies.	No. of accidents	0	1	2	3	4	No. of days	21	18	7	3	1	CO4										
No. of accidents	0	1	2	3	4																			
No. of days	21	18	7	3	1																			
e.	Write the formula for F-test and Chi-square test. The following table shows the distribution of digits in numbers chosen at random from a telephone directory: <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>Sample no.</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> </tr> <tr> <td>No. of defectives</td> <td>1026</td> <td>1107</td> <td>997</td> <td>966</td> <td>1075</td> <td>933</td> <td>1107</td> <td>972</td> <td>964</td> <td>853</td> </tr> </table> Test whether the digits may be taken to occur equally frequently in the directory.	Sample no.	0	1	2	3	4	5	6	7	8	9	No. of defectives	1026	1107	997	966	1075	933	1107	972	964	853	CO5
Sample no.	0	1	2	3	4	5	6	7	8	9														
No. of defectives	1026	1107	997	966	1075	933	1107	972	964	853														

SECTION-C

10x1=10

6. Attempt any one

a.	State Baye's theorem. Three urns contain 6 red, 4 black, 4 red, 6 black, and 5 red, 5 black balls respectively. One of the urns is selected at random and a ball is drawn from it if the ball drawn is red, find the probability that it drawn from the first urn.	CO4
b.	The daily wages 1000 workers are normally distributed around a mean of Rs.140 and a standard deviation of Rs.10. Estimate the number of workers whose daily wages will be (i) between Rs. 140 and Rs.144. (ii) less than Rs.126. (iii) more than Rs.160.	CO4

10x1=10

7. Attempt any one

a.	Two random samples drawn from 2 normal populations are as follows:	CO5																						
	<table border="1"> <tr> <td>A</td> <td>17</td> <td>27</td> <td>18</td> <td>25</td> <td>27</td> <td>29</td> <td>13</td> <td>17</td> </tr> <tr> <td>B</td> <td>16</td> <td>16</td> <td>20</td> <td>27</td> <td>26</td> <td>25</td> <td>21</td> <td></td> </tr> </table> <p>Test whether the samples are drawn from the same normal population.</p>	A	17	27	18	25	27	29	13	17	B	16	16	20	27	26	25	21						
A	17	27	18	25	27	29	13	17																
B	16	16	20	27	26	25	21																	
b.	Following is the data of defective of 10 samples of size 100 each	CO5																						
	<table border="1"> <tr> <td>Sample No.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>No.of defectives</td> <td>15</td> <td>11</td> <td>9</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>7</td> <td>1</td> </tr> </table> <p>Construct p-chart and state whether the process is in statistical control.</p>	Sample No.	1	2	3	4	5	6	7	8	9	10	No.of defectives	15	11	9	6	5	4	3	2	7	1	
Sample No.	1	2	3	4	5	6	7	8	9	10														
No.of defectives	15	11	9	6	5	4	3	2	7	1														

10x1=10

3. Attempt any one

a.	Solve the following differential equations: ($D^2 - DD' - 2D'^2 + 2D + 2D'$) $z = e^{2x+3y} + \sin(2x+y) + xy$	CO1
b.	Solve $r + s - 6t = y \cos x$.	CO1

10x1=10

4. Attempt any one

a.	A rectangular plate with insulated surface is 8 cm wide and so long compared to its width that it may be considered infinite in length without introducing an appreciable error. If the temperature along one short edge $y = 0$ is given by $u(x, 0) = 100 \sin \frac{\pi x}{8}$, $0 < x < 8$ while the two long edges $x = 0$ and $x = 8$ as well as the other short edge are kept at 0°C , show that the steady state temperature at any point of the plate is given by $u(x, y) = 100e^{-\frac{\pi y}{8}} \sin \frac{\pi x}{8}$.	CO2
b.	An insulated rod of length l has its ends A and B maintained at 0°C and 100°C respectively until steady state conditions prevail. If B is suddenly reduced to 0°C and maintained at 0°C , find the temperature at a distance x from A at time t .	CO2

10x1=10

5. Attempt any one

a.	Fit a second degree parabola and hence fit the curve to the following data taking y as dependent variable:	CO3																				
	<table border="1"> <tr> <td>x</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> </tr> <tr> <td>y</td> <td>2</td> <td>6</td> <td>7</td> <td>8</td> <td>10</td> <td>11</td> <td>8</td> <td>13</td> <td>5</td> </tr> </table>	x	1	2	3	4	5	6	7	8	9	y	2	6	7	8	10	11	8	13	5	
x	1	2	3	4	5	6	7	8	9													
y	2	6	7	8	10	11	8	13	5													
b.	(i) The first four moments of a distribution about the value '0' are -0.20, 1.76, -2.36 and 10.88. Find the moments about the mean. Also discuss about skewness & kurtosis. (ii) Obtain the moment generating function of the random variable x having probability distribution. $f(x) = \begin{cases} x, & \text{for } 0 < x < 1 \\ 2 - x, & \text{for } 1 < x < 2 \\ 0, & \text{elsewhere} \end{cases}$ also determine mean v_1 and v_2 and variance μ_2 .	CO3																				

Name: Roll No:

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: BAS201 Sub. Name: Engg Physics
 Year: I Branch: CSE (A&B)

PUT EXAMINATION (EVEN SEMESTER 2022-23)

[Time: 3 Hours] [Total Marks: 70]

COURSE OUTCOMES

CO1	To explain the distribution of energy in black body radiation and to understand the difference in particle and wave nature with explanation of Compton effect and Schrodinger wave equation.
CO2	To understand the concept of displacement current and consistency of Ampere's law and also the properties of electromagnetic waves in different medium with the use of Maxwell's equations.
CO3	To understand the behavior of waves through various examples/applications of interference and diffraction phenomenon and the concept of grating and resolving power.
CO4	To know the functioning of optical fiber and its properties and applications. To understand the concept, properties and applications of Laser.
CO5	To know the properties and applications of superconducting materials and nano materials.

SECTION-A

1. Attempt all parts: 2x7=14

a.	Define phase velocity and group velocity.	CO1
b.	Write the conditions of wave function?	CO1
c.	What do you mean by depth of penetration?	CO2
d.	Why Newton's rings are circular?	CO3
e.	What do you understand by dispersive power of grating?	CO3
f.	Explain population inversion condition?	CO4
g.	Explain Meissner's effect	CO5

SECTION-B

2. Attempt any three parts: 7x3=21

a.	An X-ray photon collides with an electron at rest. It is scattered through 90° . What is its frequency after collision if its initial frequency is 3×10^{19} hz ?	CO1
b.	Using the Maxwell's eq ⁿ curl $B = \mu_0 (J + \partial D/\partial t)$ Prove that $\text{div } D = \rho$	CO2
c.	What are Newton's rings? Derive expression for the radius of n^{th} dark as well as bright ring..	CO3
d.	A silicon optical fibre with a core diameter large enough has a core refractive index of 1.5 and a cladding refractive index 1.47. Determine-(i) the critical angle at the core-cladding interface (ii) The NA for the fibre (iii) the acceptance angle in air for fibre.	CO4
e.	The superconducting transition temperature of Lead is 7.26 K. The initial field at 0 K is 64×10^3 Amp/m. Calculate the critical field at 5K.	CO5

SECTION-C

3. Attempt any one 7x1=7

a.	Solve Schrodinger's time independent wave equation. Determine the velocity and kinetic energy of a neutron having de-Broglie wavelength 1 Å. Mass of neutron = 1.67×10^{-27} , $h = 6.63 \times 10^{-34}$ j-s	CO1
b.	Explain De-broglie hypothesis? Explain and discuss the outcome of Davisson and Germer experiment in details.	CO1

4. Attempt any one

7x1=7

a.	Derive an expression for electric and magnetic field vector using Maxwell equation for electromagnetic waves in free space.	CO2
b.	What is Poynting vector? Discuss the work-energy theorem for the flow of energy in electromagnetic waves.	CO2

5. Attempt any one

7x1=7

a.	Discuss the phenomena of Fraunhofer diffraction due to N- parallel slits and discuss its maxima and minima conditions.	CO3
b.	How interference takes place in thin films? Show that the reflected and transmitted interference patterns are complementary.	CO3

6. Attempt any one

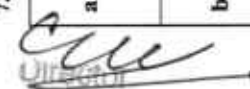
7x1=7

a.	Define Dispersion. Explain different types of dispersion.	CO4
b.	What do you mean by spontaneous and stimulated emission. Derive the relation between Einstein's coefficients of A and B?	CO4

7. Attempt any one

7x1=7

a.	What do you mean by nano materials. Explain Sol-Gel method for fabrication of nano materials.	
b.	What is superconductor? Explain Type-I and Type-II superconductors. Give its applications.	



Name: Roll No:

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: KCS-401 Sub. Name: Operating System

Year: 2nd

Branch: CSE/DS/AI

PUT EXAMINATION (EVEN SEMESTER 2022-23)

[Time: 3 Hours] [Total Marks: 100]

COURSE OUTCOMES

CO1	Understand the structure and functions of OS
CO2	Learn about Processes, Threads and Scheduling algorithms
CO3	Understand the principles of concurrency and Deadlocks
CO4	Learn various memory management scheme
CO5	Study I/O management and File systems.

SECTION-A

1. Attempt all parts:

2×10=20

a.	Define Operating System. List the objectives of an operating system	CO1
b.	Difference between Process and Program.	CO1
c.	What is critical section problem?	CO2
d.	Explain the principle of concurrency	CO2
e.	What are the various scheduling criteria for CPU scheduling?	CO3
f.	Difference between Process and Program.	CO3
g.	Difference between External fragmentation and Internal fragmentation.	CO4
h.	Explain Performance of demand paging.	CO4
i.	Explain RAID.	CO5
j.	Difference between Directory and File.	CO5

SECTION-B

2. Attempt any three parts:

10×3=30

a.	What is Kernel? Describe various operations performed by Kernel	CO1
b.	Give the principles, mutual exclusion in critical section	CO2

	problem. Also discuss how well these principles are followed in Dekker's solution	CO3
c.	Describe Banker's algorithm for safe allocation	CO4
d.	Explain the cause of Thrashing? Also explain the steps are taken by the system to eliminate this problem?	CO5
e.	Write short notes on : i) File system protection and security and ii) Linked File allocation methods	

SECTION-C

10×1=10

3. Attempt any one		CO1
a.	Differentiate between (with one suitable example): i) Interactive and Batch processing System. ii) Multiprogramming and Time Sharing System.	CO1
b.	Write about monolithic kernel, layered, and microkernel structures of operating systems.	CO1

4. Attempt any one

10×1=10

a.	Explain what semaphores are, their usage, implementation given to avoid busy waiting and binary semaphores.	CO2
b.	Explain Producer Consumer problem? How it can illustrate the classical problem of synchronization? Explain.	CO2

5. Attempt any one

10×1=10

Consider the following snapshot of a system:

Process	Allocated			Maximum			Available		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
P1	2	2	3	3	6	8	7	7	10
P2	2	0	3	4	3	3			
P3	1	2	4	3	4	4			

Answer the following questions using the banker's algorithm:
1) What is the content of the matrix need?
2) Is the system in a safe state?

b	Consider the following process:				CO3
	Process	Arrival Time	Burst Time	Priority	
	P1	0	6	3	
	P2	1	4	1	
	P3	2	5	2	
	P4	3	8	4	

Draw Gantt chart and find the average waiting time and average turnaround time:

(i) SRTF Scheduling
(ii) Round robin (time quantum:3)

6.	Attempt any one	10x1=10	CO4
a.	Consider the following reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. Assume there are three frames. Apply LRU replacement algorithm to the reference string above and find out how many page faults are produced. Illustrate the LRU page replacement algorithm in detail and also two feasible implementation of the LRU algorithm.		
b.	Explain the difference between External fragmentation and Internal fragmentation. How to solve the fragmentation problem using paging.		CO4

7.	Attempt any one	10x1=10	CO5
a.	Suppose that a disk drive has 5000 cylinders numbered 0 to 4999. The drive is currently serving a request at cylinder 143. The queue of pending requests in FIFO order 86,1470,913,1774,948,1509, 1022, 1750, 130 starting from current head position. What is the total distance that disk arm moves to satisfy all the pending request for FCFS and SSTF disk scheduling algorithm?		
b.	Write short notes on : i) I/O Buffering ii) Disk storage and scheduling		CO5

Name: Roll No:

10x3=30

SECTION-B

2. Attempt any three parts:

a.	What are the major competencies that lead to superior performance of entrepreneur?	CO1
b.	What are different types of innovations on the basis of change in market and technology?	CO2
c.	What do you understand by scope in project management?	CO3
d.	What work is involved in project scope management?	CO4
e.	What is project financing? What are its various types of sponsors in project financing?	CO5

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: KHU-802 Sub. Name: PME

Year: 2022-2023 Branch: CSE

PUT EXAMINATION (EVEN SEMESTER 2022-23)

[Time: 3 Hours] [Total Marks: 100]

COURSE OUTCOMES

CO1	Describe Entrepreneurship and underlying the conceptual model of Entrepreneurship.
CO2	Describe Innovation, management skills for entrepreneurship and its Organizational effectiveness.
CO3	Explain Project management and Life cycle of project appraisal.
CO4	Explain Project financing and preparation of project report.
CO5	Analyze Social Entrepreneurship.
CO6	Design a report on given projects.

SECTION-C

3. Attempt any one

a.	What do you mean by entrepreneurial motivation explain McClelland's achievement motivation theory?	10x1=10
b.	Discuss the objectives of Entrepreneurial development program.	CO1

SECTION-A

1. Attempt all parts:

2x10=20

a.	Differentiate between entrepreneur & manager.	CO1
b.	What are the need and scope of entrepreneurship?	CO1
c.	How do you create value creation?	CO2
d.	Differentiate between innovation and creativity.	CO2
e.	What are the key skills of good project manager?	CO3
f.	Explain market appraisal with its scope and objectives.	CO3
g.	What do you understand by "working capital"?	CO4
h.	What is capital budgeting?	CO4
i.	What do you understand by "social sector"?	CO5
j.	Name some successful models of social entrepreneurship in India.	CO5

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4. Attempt any one	10x1=10	
a.	What do you understand by business opportunities? What are the characteristics of good business opportunities?	CO2
b.	Explain in brief the functions of entrepreneur especially to the Economic Development of the Country. Explain briefly Skill Development Program.	CO2

5. Attempt any one	10x1=10	
a.	What do you mean by project management? Describe phases and requirements of various phases of project management.	CO3
b.	Explain various demand forecasting techniques involved in predicting the demand for product in market appraisal	CO3

6. Attempt any one

10x1=10

a.	What do you understand by risk and uncertainty in a project? What are its types and also explain the risk management process.	CO4
b.	What are cash flow statements? Describe its types and objectives. Mention the steps require preparing cash flow statement.	CO4

7. Attempt any one

10x1=10

a.	What do you understand by marketing for social entrepreneurship? Give practices for marketing a social enterprise.	CO5
b.	What are the legal structures used in social entrepreneurship sector?	CO5



Director

Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code TRR

Name: Roll No:

Mangalmai Institute of Engineering and Technology, Gr. Noida

Subject Code: KCS-503 Subject Name:- Shweta Chauhan
 YEAR:-V Branch:-CSE/AI/DS
 2nd SESSIONAL EXAMINATION (EVEN SEMESTER 2022-23)

[Time: 2 Hours] [Total Marks: 50]

COURSE OUTCOMES

CO1	Design new algorithms, prove them correct, and analyze their asymptotic and absolute runtime and memory demands
CO2	Find an algorithm to solve the problem (create) and prove that the algorithm solves the problem correctly (validate).
CO3	Understand the mathematical criterion for deciding whether an algorithm is efficient, and know many practically important problems that do not admit any efficient algorithms
CO4	Apply classical sorting, searching, optimization and graph algorithms.
CO5	Understand basic techniques for designing algorithms, including the techniques of recursion, divide-and-conquer, and greedy

SECTION-B

NOTE: Attempt any four parts

Q.2. Derive the time complexity of Merge sort? (4x5=20) (CO1)

Q.3. Solve the recurrence
 i) $T(n) = 3T(n/4) + cn^2$ using recursion tree method. (CO1)

ii) $T(n) = n + 2T(n/2)$ using Iteration method. (Given $T(1)=1$)

Q.4. What is Fibonacci Heap? Write down the algorithm for Decrease key operation in Fibonacci Heap also write its time complexity (CO2)

Q.5. Discuss the various cases for insertion of key in red-black tree for given sequence of key in an empty red-black tree- {15, 13, 12, 16, 19, 23, 5, 8}. (CO2)

Q.6. What is Knapsack problem? Solve Fractional knapsack problem using greedy programming for the following four items with their weights $w = \{3, 5, 9, 5\}$ and values $P = \{45, 30, 45, 10\}$ with knapsack capacity is 16. (CO3)

Q.7. Write down the Bellman Ford algorithm to solve the single source shortest path problem also write its time complexity. (CO3)

SECTION-C

NOTE: Attempt any two parts:

Q.8. What do you understand by stable and unstable sorting? Sort the following sequence {25, 57, 48, 36, 12, 91, 86, 32} using heap sort. (2x10=20) (CO1)

Q.9. Show the results of inserting the keys F, S, Q, K, C, L, H, T, V, W, M, R, N, P, A, B, X, Y, D, Z, E in order into an empty B-tree. Use $t=3$, where t is the minimum degree of B- tree. (CO2)

SECTION-A

Attempt all parts:

Q.1. (a) How analyze the performance of an algorithm in different cases? (2x5=10) (CO1)

(b) Write down the properties of Fibonacci Heap. (CO2)

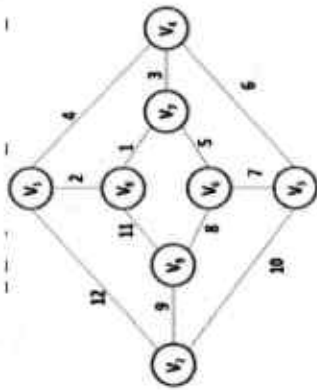
(c) Explain Skip List in Brief. (CO2)

(d) What are the differences between Prim's algorithm and Kruskal Algorithm? (CO3)

(e) What do you mean by Convex Hull? (CO3)

Q.10. Define minimum spanning tree (MST). Write Prim's algorithm to generate a MST for any given weighted graph. Generate MST for the following graph using Prim's algorithm.

(CO3)



Case
Director
Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-788

Dr. A.P.J. Abdul Kalam Technical University,

Sec-11, Jankipuram Vistar, Lucknow, Uttar Pradesh India Pin Code-226031

Odd Semester, Internal Theory Examination 2022-23

College: Mangalmay Institute of Engineering and Technology, Greater Noida

College code : 786
Course : B.Tech 1st Year- I Semester
Branch : (10) CS, 152 (AI) & 154 (DS)

MIET

INTERNAL THEORY & PRACTICAL EXAMINATION

S.NO.	PAPER CODE	NAME OF THE PAPER
1	BAS101	Engineering Physics
2	BAS102	Engineering Chemistry
3	BAS103	Engineering Mathematics-I
4	BAS104	Environment and Ecology
5	BAS105	Soft Skills
6	BEE101	Fundamentals of Electrical Engineering
7	BCS101	Programming for Problem Solvin
8	BEC101	Fundamentals of Electronics Engineering
9	BME101	Fundamentals of Mechanical Engineering
10	BAS151	Engineering Physics Lab
11	BEE151	Basic Electrical Engineering Lab
12	BCS151	Programming for Problem Solving Lab
13	BCE151	Engineering Graphics & Design Lab
14	BWS151	Workshop Practice Lab
15	BEC151	Basic Electronics Engineering Lab
16	BAS152	Engineering Chemistry Lab
17	BAS155	English Language Lab

Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code 786

Mangalmay Institute of Engineering and Technology

Campus: Plot No. 8 & 9 Knowledge Park II, Greater Noida, Delhi NCR



डा० ए०पी०जे० अब्दुल कलाम प्राविधिक विश्वविद्यालय, उत्तर प्रदेश, लखनऊ
Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow
(Formerly Uttar Pradesh Technical University)

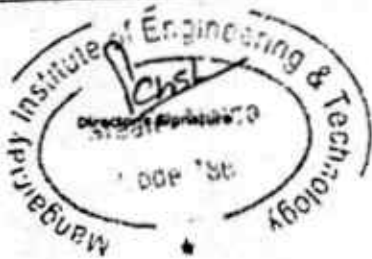
Sessional Marks Examination (सत्रिक अंश)

Sessional Brief (सत्रिक संक्षिप्त)

Institute Code & Name	MANGALMAY INSTITUTE OF ENGINEERING AND TECHNOLOGY, GAUTAM BUDDHA NAGAR(786)	<u>पृष्ठ सं. १/१</u>
Course Code & Name	B.Tech	
Branch Code & Name	Computer Science and Engineering	
Semester	1	
Faculty Name	Pradeep Kumar	
Subject Code	BAS101	
Marks Type	True (* will be TRUE after submitting to university by your college.)	
Is Finally Submitted to University		

Sessional Marks (सत्रिक अंश)

Sl. No. (सं.)	Roll No. (अनुक्रमांक)	Name (नाम)	Obl.(CT) अंश (CT)	Max.(CT) अधिकतम (CT)	Obl. TA (Assign./Att.)	Max. TA (Assign./Att.)	Obl. CT+TA	Max. CT+TA	Remark (टिप्पणी)
1	2207860100006	ABHISHEK KUMAR SAHANI	18	20	7	10	25	30	
2	2207860100015	AKANSHI HARI ALKA	18	20	8	10	26	30	
3	2207860100017	AKSHAT GULIA	15	20	8	10	23	30	
4	2207860100022	AMAN PARTAP SINGH	16	20	8	10	24	30	
5	2207860100024	AMIT	18	20	7	10	25	30	
6	2207860100035	ANSHIKA SINGH	18	20	8	10	26	30	
7	2207860100045	BHAVYA PURI	18	20	8	10	26	30	
8	2207860100048	CHETAN SHARMA	17	20	8	10	25	30	
9	2207860100058	EXXA SHUKLA	18	20	8	10	26	30	
10	2207860100061	GAURAV KUMAR	18	20	8	10	26	30	
11	2207860100068	HARSH SWAMI	15	20	8	10	23	30	
12	2207860100076	JATIN SANTOSHI	18	20	8	10	26	30	
13	2207860100078	JESICA YADAV	18	20	8	10	26	30	
14	2207860100088	KUNAL DHIMAN	13	20	7	10	20	30	
15	2207860100093	MD JAKIR REZA	16	20	9	10	25	30	
16	2207860100094	MD TOUJIB AKHTAR	15	20	7	10	22	30	
17	2207860100100	MOHIT SAINI	17	20	10	10	27	30	
18	2207860100101	MUNINDRA PAL	18	20	10	10	28	30	
19	2207860100103	NEERAJ KUMAR	18	20	8	10	26	30	
20	2207860100108	PANKAJ PATRA	16	20	7	10	23	30	
21	2207860100110	PARTH GIRDHAR	17	20	10	10	27	30	
22	2207860100113	PAWAN KUMAR YADAV	17	20	10	10	27	30	
23	2207860100135	RITIK CHAURASTIA	18	20	8	10	26	30	
24	2207860100138	ROSHNI SHARMA	18	20	8	10	26	30	
25	2207860100142	SATYA PRAKASH SRIVASTAVA	17	20	8	10	25	30	
26	2207860100148	SHASHWAT MISHRA	18	20	10	10	28	30	
27	2207860100150	SHITIJ KUMAR	16	20	9	10	25	30	
28	2207860100153	SHIVAM KUMAR SINGH	17	20	8	10	25	30	
29	2207860100154	SHIVAM TIWARI	16	20	7	10	23	30	
30	2207860100158	SHUBHANG SAHU	16	20	7	10	23	30	
31	2207860100159	SHWEET TANTA	19	20	10	10	29	30	
32	2207860100165	SURAJ AGGARWAL	18	20	10	10	28	30	
33	2207860100168	SWATI PANDEY	18	20	9	10	27	30	
34	2207860100174	VISHAL RAJWAR	16	20	9	10	25	30	



P. K. Singh
Faculty Signature

[Signature]
Director
Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-786

207861520060	VIKAS KUMAR	16	20	8	10	24	30
2207861520061	VIRAAJ SINGH	15	20	8	10	23	30
2207861520062	YASH PRATAP	18	20	8	10	26	30
2207861520063	YASHVARDHAN VERMA	15	20	7	10	22	30

Director's Signature
 Greater Noida
 U.P. - 201310

Faculty Signature

Director
 Mangalmai Institute of Engineering & Technology
 Greater Noida (U.P.)-201310
 (College Code-786)



डा० ए०पी०जे० अब्दुल कलाम प्राविधिक विश्वविद्यालय, उत्तर प्रदेश, लखनऊ
 Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow
 (Formerly Uttar Pradesh Technical University)

Seasonal Marks Examination (सीजनल अंक)

Seasonal Brief (सीजनल ब्रीफ)

Institute Code & Name	MANGALMAY INSTITUTE OF ENGINEERING AND TECHNOLOGY, GAUTAM BUDDHA NAGAR (786)
Course Code & Name	B.Tech
Branch Code & Name	Computer Science And Engineering(Data Science)
Semester	I
Faculty Name	Pradeep Kumar
Subject Code	BAS101
Marks Type	True (* will be TRUE after submitting to university by your college.)
Finally Submitted to University	

Seasonal Marks (सीजनल अंक)

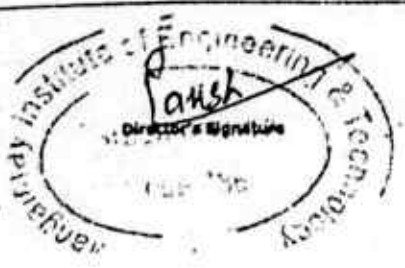
Sl. No. (सि.नं.)	Roll No. (रोल नंबर)	Name (नाम)	Obl. (CT) (अंक (CT))	Max. (CT) (अधिकतम (CT))	Obl. TA (Assign./Att.) (अंक (TA (असाइन./अट्ट.)	Max. TA (Assign./Att.) (अधिकतम (TA (असाइन./अट्ट.)	Obl. CT+TA (अंक (CT+TA))	Max. CT+TA (अधिकतम (CT+TA))	Remark (टिप्पणी)
1	2207861540001	ABHJEET CHAKRAVARTI	18	20	10	10	28	30	
2	2207861540002	ANNNER KUMAR JHA	18	20	8	10	26	30	
3	2207861540003	ADITYA GOSWAMI	18	20	8	10	26	30	
4	2207861540004	ADITYA MISHRA	19	20	10	10	29	30	
5	2207861540005	ALOK PRAKASH	16	20	7	10	23	30	
6	2207861540006	ALOK RAKSHAN VIJETA	18	20	10	10	28	30	
7	2207861540007	ANAN SINGH BISHY	16	20	9	10	25	30	
8	2207861540008	ANIL GUPTA	16	20	9	10	25	30	
9	2207861540009	ARJUN TOMAR	16	20	8	10	24	30	
10	2207861540010	ARYAN RATHORE	15	20	8	10	23	30	
11	2207861540011	AYUSH	17	20	10	10	27	30	
12	2207861540012	CHAHAT SAINI	18	20	8	10	26	30	
13	2207861540013	DAVID SINGH	19	20	10	10	29	30	
14	2207861540014	DEEPAKSHU CHAUDHARY	13	20	7	10	20	30	
15	2207861540015	DE SATHYA HOORTHI	18	20	8	10	26	30	
16	2207861540016	FAHAD DILSHAD	18	20	7	10	25	30	
17	2207861540017	GALURAV KUMAR	16	20	7	10	23	30	
18	2207861540018	HARSH KUMAR	18	20	8	10	26	30	
19	2207861540019	KULDEEP CHAUDHARY	18	20	10	10	28	30	
20	2207861540020	MO SHOAJIB	16	20	7	10	23	30	
21	2207861540021	OM KUMAR	16	20	9	10	25	30	
22	2207861540022	PRAYAL TIWARI	18	20	10	10	28	30	
23	2207861540023	PRAKASH KUMAR JHA	18	20	8	10	26	30	
24	2207861540024	SHUBHAM	18	20	10	10	28	30	
25	2207861540025	SUJEET KUMAR	18	20	9	10	27	30	
26	2207861540026	SUNIL KUMAR	16	20	8	10	24	30	



Pradeep
 Faculty Signature

Pradeep
 Director
 Mangalmay Institute of Engineering & Technology
 Greater Noida (U.P.)-201310
 College Code-786

2207860100071	HAZIQUE RAZA	20	20	9	10	29	30
2207860100072	HIMANSHU KUMAR	18	20	7	10	25	30
2207860100073	HIMANSHU SINGH.	20	20	9	10	29	30
2207860100074	JATIN	20	20	8	10	28	30
2207860100075	JATIN KUMAR	18	20	8	10	26	30
2207860100077	JAVED SHAIKH	18	20	7	10	25	30
2207860100079	JYA KUMARI	18	20	7	10	25	30
2207860100080	KANHAJA PRAJAPATI	18	20	8	10	26	30
2207860100081	KANIKA JAIN	18	20	8	10	26	30
2207860100082	KAPIL SAGAR	19	20	8	10	27	30
2207860100083	KARAN SINGH	18	20	7	10	25	30
2207860100084	KASHISH	20	20	9	10	29	30
2207860100085	KASHISH BANSAI	18	20	8	10	26	30
2207860100086	KISHAN SENGAR	18	20	8	10	26	30
2207860100087	KUMAR SAURAV CHAUDHARY	16	20	8	10	24	30
2207860100089	MANAS KISHRA	19	20	9	10	28	30
2207860100090	HAYANK AGGARWAL	19	20	9	10	28	30
2207860100091	MD ANJAD ALAM	18	20	7	10	25	30
2207860100092	MD AQUIB KHAN	16	20	7	10	23	30
2207860100093	MOHD FARHAN	19	20	8	10	27	30
2207860100096	MOHD MUJTABA NIZAMI	18	20	8	10	26	30
2207860100097	MOHD SAMAR	19	20	8	10	27	30
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2207860100104	NEHA DAS	15	20	7	10	22	30
2207860100105	NEHA YADAV	19	20	9	10	28	30
2207860100106	NIKHIL KUMAR YADAV	20	20	9	10	29	30
2207860100107	NITESH KUMAR	16	20	7	10	23	30
2207860100109	PARAM CHAUDHARY	16	20	7	10	23	30
2207860100111	PAVNEESH KUMAR	16	20	7	10	23	30
2207860100112	PAWAN JOSHI	16	20	7	10	23	30
2207860100114	PIYUSH SHARMA	15	20	7	10	22	30
2207860100115	PRASHANT KUMAR	18	20	9	10	27	30
2207860100116	PRINCE KUMAR	19	20	7	10	26	30
2207860100117	PRINCE PATEL	15	20	7	10	22	30
2207860100118	PRINCE YADAV	20	20	9	10	29	30
2207860100120	PRIJAM NAYAK	18	20	5	10	23	30
2207860100121	PRIJANSHU RAJ	17	20	6	10	23	30
2207860100122	PRIJANSHU RAJPUT	18	20	7	10	25	30
2207860100123	PRITYESH KUMAR	18	20	6	10	24	30
2207860100124	PUNEET KUMAR SHARMA	18	20	7	10	25	30
2207860100125	PUSHPENDRA RAWAT	20	20	9	10	29	30
2207860100126	RADHE BIHARI	15	20	7	10	22	30
2207860100127	RAHUL VERMA	18	20	8	10	26	30
2207860100128	RAJNISH PATHAK	18	20	8	10	26	30
2207860100129	RALNAX RAJ	18	20	9	10	27	30
2207860100130	RISHABH BHATTI	20	20	9	10	29	30
2207860100131	RISHABH FANORIA	18	20	8	10	26	30
2207860100132	RISHAV KUMAR	18	20	8	10	26	30
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2207860100136	ROHIT KASHYAP	18	20	7	10	25	30
2207860100137	ROHIT SINGH BHADORIA	18	20	7	10	25	30
2207860100140	SANYA TOMAR	18	20	8	10	26	30
2207860100141	SARFARAZ ANSARI	18	20	8	10	26	30
2207860100143	SATYAM KUMAR	17	20	6	10	23	30
2207860100144	SATYAM MEENA	19	20	8	10	27	30
2207860100145	SAURABH RATHOR	18	20	8	10	26	30
2207860100146	SAURABH TIWARI .	18	20	7	10	25	30
2207860100147	SHAHRIKH ALI	18	20	6	10	24	30
2207860100148	SHARANSH JHA	18	20	8	10	26	30
2207860100152	SHIVAM KUMAR	18	20	7	10	25	30
2207860100155	SHRADDHA MISHRA	18	20	7	10	25	30
2207860100156	SHREYANSH KUMAR	17	20	6	10	23	30
2207860100157	SHUBHAM KUMAR MALLICK	18	20	7	10	25	30
2207860100160	SHWET CHAUHAN	18	20	7	10	25	30
2207860100161	SONAM KUMARI	18	20	8	10	26	30
2207860100162	SRINTYASH KUMAR	18	20	7	10	25	30
2207860100163	SUJIT KUMAR	18	20	7	10	25	30
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2207860100166	SURYA PRAKASH	18	20	8	10	26	30
2207860100167	SUSHIL KUMAR	18	20	9	10	26	30
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2207860100170	TANISHKA KALUR SURJ	20	20	9	10	29	30
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2207860100172	VISHAL KUMAR	17	20	7	10	25	30
2207860100173	VISHAL KUMAR BHAGAT	18	20	7	10	24	30
2207860100175	VIVEK KUMAR	18	20	8	10	25	30
2207860100176	VIVEK SHARMA	18	20	7	10	26	30
2207860100177	VIVEK SINGH BHADOURIYA	20	20	9	10	29	30
2207860100178	YASH ARYA	17	20	6	10	23	30
2207860100179	YOGYATA SHARMA	18	20	7	10	25	30



Director
Mangalmai Institute of Engineering & Technology
Greater Noida (U.P.)-201310
(College Code: 788)

Faculty Signature



डा० ए०पी०जे० अब्दुल कलाम प्राविधिक विश्वविद्यालय, उत्तर प्रदेश, लखनऊ
Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow
(Formerly Uttar Pradesh Technical University)

Sessional Marks Examination (सैत्रिक अंक)

Sessional Brief (सैत्रिक संक्षिप्त)

Institute Code & Name : MANGALMAY INSTITUTE OF ENGINEERING AND TECHNOLOGY ,GAUTAM BUDDHA NAGAR(786)
Course Code & Name : B.Tech
Branch Code & Name : Computer Science And Engineering(Data Science)
Semester : 1
Faculty Name : PRABHAT KUMAR
Subject Code : BAS103
Marks Type :
Finally Submitted to University : True (* will be TRUE after submitting to university by your college.)

Print (डिजिटल)

Sessional Marks (सैत्रिक अंक)

Sr.No. (क्रम संख्या)	Roll No. (अनुक्रमांक)	Name (नाम)	OBL.(CT) प्राप्त (CT)	Max.(CT) अधिकतम (CT)	Obl. TA (Assign./Att.)	Max. TA (Assign./Att.)	Obt. CT+TA	Max. CT+TA	Remark (टिप्पणी)
1	2207861540001	ABHJEET CHAKRAVARTI	20	20	9	10	29	30	
2	2207861540002	Abhishek Kumar Jha	17	20	8	10	25	30	
3	2207861540003	ADITYA GOSWAMI	16	20	7	10	23	30	
4	2207861540004	ADITYA MISHRA	14	20	7	10	21	30	
5	2207861540005	ALOK PRAKASH	15	20	8	10	23	30	
6	2207861540006	ALOK RANJAN VIJETA	17	20	8	10	25	30	
7	2207861540007	AMAN SINGH BISHT	15	20	7	10	22	30	
8	2207861540008	ANUJ GUPTA	15	20	8	10	23	30	
9	2207861540009	ARJUN TOMAR	15	20	7	10	22	30	
10	2207861540010	ARYAN RATHORE	17	20	7	10	24	30	
11	2207861540011	AYUSH	16	20	7	10	23	30	
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13	2207861540013	DAVID SINGH	19	20	9	10	28	30	
14	2207861540014	DEEPANSHU CHAUDHARY	13	20	7	10	20	30	
15	2207861540015	E SATHYA MOORTHY	17	20	8	10	25	30	
16	2207861540016	FAHAD DILSHAD	16	20	7	10	23	30	
17	2207861540017	GAURAV KUMAR	15	20	7	10	22	30	
18	2207861540018	HARSH KUMAR	17	20	7	10	24	30	
19	2207861540019	KULDEEP CHAUDHARY	19	20	10	10	29	30	
20	2207861540020	MO SHOJIB	14	20	7	10	21	30	
21	2207861540021	KOM KUMAR	17	20	7	10	24	30	
22	2207861540022	PAYAL TIWARI	19	20	9	10	28	30	
23	2207861540023	PRANSHU KUMAR JHA	16	20	7	10	23	30	
24	2207861540024	SHUBHAM	17	20	8	10	25	30	
25	2207861540025	SUJIT KUMAR	19	20	9	10	28	30	
26	2207861540026	SUNIL KUMAR	18	20	8	10	26	30	



Print
Faculty Signature

Print

Mangalmay Institute of Engineering & Technology
Greater Noida (U.P.)-201310
College Code-786



डा० ए०पी०जे० अब्दुल कलाम प्राविधिक विश्वविद्यालय, उत्तर प्रदेश, लखनऊ

Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

(Formerly Uttar Pradesh Technical University)

Sessional Marks Examination (सैशनल अंक)

Sessional Brief (सैशनल ब्रीफ)

Institute Code & Name : MANGALNAY INSTITUTE OF ENGINEERING AND TECHNOLOGY, GAUTAM BUDDHA NAGAR(786)
 Course Code & Name : B.Tech
 Branch Code & Name : Computer Science and Engineering (Artificial Intelligence) Page (द्वितीय)
 Semester :
 Faculty Name : PRABHAT KUMAR
 Subject Code : BAS103
 Marks Type :
 Finally Submitted to University : True (* will be TRUE after submitting to university by your college.)

Sessional Marks (सैशनल अंक)

Sl. No. (क्रम सं.)	Roll No. (अनुसंधान सं.)	Name (नाम)	Obl.(CT) अंक (CT)	Max.(CT) अधिकतम (CT)	Obl. TA (Assign./Att.)	Max. TA (Assign./Att.)	Obl. CT+TA	Max. CT+TA	Remarks (टिप्पणी)
1	2207861520001	ABHISHEK MADHESHYA	16	20	7	10	23	30	
2	2207861520002	ADITYA RAJ	16	20	7	10	23	30	
3	2207861520003	ADITYA SHUKLA	18	20	10	10	28	30	
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5	2207861520005	ANAN KUMAR CHAURASTYA	18	20	9	10	27	30	
6	2207861520006	ANAN RAJPUT	18	20	9	10	27	30	
7	2207861520007	ANIT KUMAR DUBEY	17	20	6	10	23	30	
8	2207861520008	ANIT VERMA	19	20	10	10	29	30	
9	2207861520009	ANANT KUSHWAHA	19	20	10	10	29	30	
10	2207861520010	ANJIKET JHA	18	20	8	10	26	30	
11	2207861520011	ANJESH KUMAR	16	20	6	10	22	30	
12	2207861520012	ANSHU YADAV	17	20	7	10	24	30	
13	2207861520013	ARSHAD KHAN	17	20	7	10	24	30	
14	2207861520014	ASHRAF RAHMANI	14	20	7	10	21	30	
15	2207861520015	AVNISH KUMAR	16	20	7	10	23	30	
16	2207861520016	AYUSH MAROLA	14	20	7	10	21	30	
17	2207861520017	BULAND CHOUDHARY	15	20	7	10	22	30	
18	2207861520018	HIMANSHU KUMAR KASHYAP	16	20	7	10	23	30	
19	2207861520019	ISHAAN TIWARI	15	20	7	10	22	30	
20	2207861520020	JASVANT	19	20	10	10	29	30	
21	2207861520021	KARTIK PANDEY	17	20	8	10	25	30	
22	2207861520022	MAHIL CHO	18	20	8	10	26	30	
23	2207861520023	MAYANK SARGAM	14	20	7	10	21	30	
24	2207861520024	MD DANISH	15	20	7	10	22	30	
25	2207861520025	MD FARUK	14	20	7	10	21	30	
26	2207861520026	MD KASHIF ANSARI	14	20	7	10	21	30	
27	2207861520027	MOHAMMAD AKBAR MUSSAIN	15	20	7	10	22	30	
28	2207861520028	MOHAMMAD HAMMAD	18	20	7	10	25	30	
29	2207861520029	MOHAMMAD UMAR	14	20	7	10	21	30	
30	2207861520030	MOHM IRSHAD	17	20	7	10	24	30	
31	2207861520031	MUKUL BHATTI	18	20	7	10	25	30	
32	2207861520032	MUSKAN	19	20	9	10	28	30	
33	2207861520033	NISHANT KASHYAP	17	20	7	10	24	30	
34	2207861520034	NISHANT SENGAR	15	20	8	10	23	30	
35	2207861520035	OM SINGH	14	20	9	10	23	30	
36	2207861520036	PARTH PANDEY	19	20	10	10	29	30	
37	2207861520037	PIYUSH JAISWAL	19	20	9	10	29	30	
38	2207861520038	PIYUSH KUMAR	16	20	7	10	23	30	
39	2207861520039	PRITANSHU KUMAR	16	20	7	10	23	30	
40	2207861520040	RAJIV RAJ	19	20	8	10	27	30	
41	2207861520041	RAVI DEEP SINGH	19	20	8	10	27	30	
42	2207861520042	RINKU KUMAR SAROJ	18	20	8	10	27	30	
43	2207861520043	RISHABH PATWA	15	20	9	10	24	30	
44	2207861520044	SAKSHAM DUBEY	19	20	10	10	29	30	
45	2207861520045	SAMEER KHAN	15	20	10	10	25	30	
46	2207861520046	SANCHAY JANGRA	16	20	7	10	23	30	
47	2207861520047	SALURABH MAURTA	16	20	7	10	23	30	
48	2207861520048	SHIVAM PATNAK	17	20	7	10	24	30	
49	2207861520049	SHIVANGI	17	20	7	10	24	30	
50	2207861520050	SHIVANGI SINGH	15	20	7	10	22	30	
51	2207861520051	SHUBHAM SAHU	18	20	8	10	26	30	
52	2207861520052	SHUBHAMSHU TIWARI	19	20	8	10	27	30	
53	2207861520053	SHTAN JI SHIVASTAV	19	20	10	10	29	30	
54	2207861520054	SIDDHARTH SINGH	17	20	7	10	24	30	
55	2207861520055	SOMAS SRI MAURTA	19	20	7	10	26	30	
56	2207861520056	SUMIT	16	20	10	10	26	30	
57	2207861520057	SUNAM KUMAR	17	20	8	10	25	30	
58	2207861520058	TANISH KUMAR PANDITA	19	20	8	10	27	30	
59	2207861520059	TANISHA GOEL	19	20	7	10	26	30	

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2207861520060	VIKAS KUMAR	19	20	10	10	29	30
2207861520061	VIRAJ SINGH	17	20	8	10	25	30
2207861520062	YASH PRATAP	16	20	7	10	23	30
2207861520063	YASHVARDHAN VERMA	16	20	9	10	25	30



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 Director's Signature

P. N.

 Faculty Signature

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 Director

 Mangalmai Institute of Engineering & Technology

 Greater Noida (U.P.)-201310

 (College Code-788)