Name:	Roll No: .....

Mangalmay Institute of Engineering and Technology, Gr. Noida

Subject Code:-BME-101 **Subject Name:-FME**

YEAR:-2022-23 **Branch:-CS**

1ST SESSIONAL EXAMINATION (EVEN SEMESTER 2022-23)

[Time: 2 *Hours]* ***[Total Marks: 30]***

COURSE OUTCOMES

CO1	Understand the concept of stress and strain, factor of safety, beams
CO2	Understand the basic component and working of internal combustion engines, electric and hybrid vehicles, refrigerator and heat pump, air conditioning.
CO3	Understand fluid properties, conservation laws, hydraulic machinery used in real life.
CO4	Understand the working principle of different measuring instrument with the knowledge of accuracy, error and calibration, limit, fit, tolerance and control system.
CO5	Understand concept of mechatronics with their advantages, scope and industrial application, the different types of mechanical actuation system, the different types of hydraulic and pneumatic systems.
CO6	Apply concepts of strength of material for safe design, refrigeration for calculation of COP, concepts of fluid mechanics in real life, concepts of measurements in production systems.

SECTION-A

Q.1. Attempt all parts: **(2×5=10)**

(a) Define Hooks law? (CO1)

(b) Define Concurrent coplanar force system. (CO1)

(c) Define poison's ratio. (CO1)

(d) What is Shear Stress? (CO2)

(e) State the Law of Parallelogram of forces. (CO2)

SECTION-B

NOTE: Attempt any three parts **(3x5=15)**

Q.2. A string 4 mm in diameter has original length 2 meter. The string is pulled by a force of 200N. If the final length of the spring is 2.02m, determine stress, stress and young's modulus. (CO1)

Q.3. A steel wire 2 m long and 3 mm in diameter is extended by 0.75 mm due to weight suspended from the wire. If the same weight is suspended from the brass wire of 2.5 m long and 2 mm diameter, it is elongated 4.65 mm. Determine the modulus of elasticity of brass if that of steel is $2x10^5$ N/mm^2. (CO1)

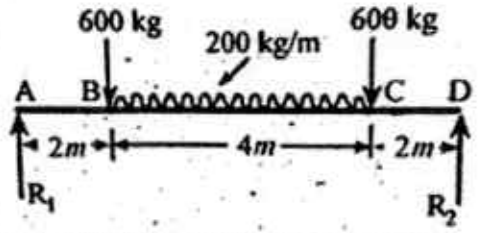
Q.4. Draw the stress strain diagram for ductile and brittle material. (CO1)

Q.5. Drive the relationship between young's modulus of elasticity and bulk modulus. (CO2)

SECTION-C

NOTE: Attempt any one parts: **(1x5=5)**

Q.6. Determine the reactions for given beam: (CO1)



Q.7. State and drive the Varignon's theorem of moment. (CO2)

Name: ..... Roll No: .....

Mangalmay Institute of Engineering and Technology, Gr. Noida

Subject Code:-KCS - 713 **Subject Name:- Cloud computing**

YEAR:- 4 yr **Branch:-CSE**

2nd SESSIONAL EXAMINATION (ODD SEMESTER 2021-22)

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

COURSE OUTCOMES

CO1	Describe architecture and underlying principles of cloud computing.
CO2	Explain need, types and tools of Virtualization for cloud.
CO3	Describe Services Oriented Architecture and various types of cloud services
CO4	Explain Inter cloud resources management cloud storage services and their providers Assess security services and standards for cloud computing
CO5	Analyze advanced cloud technologies.

SECTION-A

Q.1. Attempt all parts: **(2×5=10)**

(a) Write a short note on evolution of cloud computing. (CO1)

(b) Write difference b/w parallel and distributed computing (CO2)

(c) What do mean by cloud characteristics. (CO2)

(d) Write about the elasticity in cloud. (CO3)

(e) What do you mean by on demand provisioning. (CO3)

SECTION-B

NOTE: Attempt any four parts **(4x5=20)**

Q.2. Write about web services in cloud. (CO1)

Q.3. What is disaster recovery in cloud explain. (CO1)

Q.4. What is virtualization of CPU. (CO2)

Q.5. What do mean by memory in cloud computing. (CO2)

Q.6. What do mean by implementation in cloud computing. (CO3)

Q.7. What is public,private and hybrid cloud. (CO3)

SECTION-C

NOTE: Attempt any two parts: **(2x10=20)**

Q.8. What is architectural design challenge of cloud. (CO1)

Q.9. What is cloud storage explain in detail. (CO2)

Q.10. What is IaaS , PaaS , SaaS in cloud explain in detail with suitable example. (CO3)

Director

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

Name: ..... Roll No: .....

Mangalmay Institute of Engineering and Technology, Gr. Noida

Subject Code:-KCS 501 **Subject Name:- DBMS**

YEAR:-Third **Branch:-** CSE

2nd SESSIONAL EXAMINATION (ODD SEMESTER 2022-23)

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

COURSE OUTCOMES

CO1	Apply knowledge of database for real life applications.(KL 2)
CO2	Apply query processing techniques to automate the real time problems of databases.(KL 2)
CO3	Identify and solve the redundancy problem in database tables using normalization.(KL 2)
CO4	Understand the concepts of transactions, their processing so they will familiar with broad range of database management issues including data integrity, security and recovery.(KL 2)
CO5	Design, develop and implement a small database project using database tools(KL 2).

SECTION-A

Q.1. Attempt all parts: **(2×5=10)**

(a) What is Data Independency in DBMS? (CO1)

(b) What is DDL? Write the difference between DDL and DML. (CO1)

(c) Explain different Features of SQL. (CO2)

(d) What are advantages of normalization? (CO3)

(e) What are different relational algebra operations? (CO1)

SECTION-B

NOTE: Attempt any four parts **(4x5=20)**

Q.2. What do you mean by view? Explain it with an example. (CO2)

Q.3. What is the relational algebra? Discuss how it differs from relational calculus? (CO2)

Q.4. List the Armstrong's axioms for functional dependencies. (CO3)

Q.5. What are the characteristics of SQL?. (CO2)

Q.6. (CO3)

X→ W

WZ→ XY

Y→ WXZ

Find out closure set of X,WZ and Y from above FDs

Q.7 Find out the candidate key for given Relation (CO3)

R(A,B,C,D,E,F)

AB→C

DC→AE

E→F

SECTION-C

NOTE: Attempt any two parts: **(2x10=20)**

Q.8 Student (RollNo, Name, Father_ Name, Branch) (CO2)
Book (ISBN, Title, Author, Publisher)
Issue (RollNo, ISBN, Date-of –Issue)
Write the following queries in **SQL** and **relational algebra**:
I. List roll number and name of all students of the branch 'CSE'. II. Find the name of student who has issued a book published by 'ABC' publisher.
III. List title of all books and their authors issued to a student 'RAM'.
IV. List title of all books issued on or before December 1, 2020.
V. List all books published by publisher 'ABC

Q.9 Minimize given FDs if possible. (CO3)
R(WXYZ)
X→W
WZ→XY
Y→WXZ

Q.10 Draw an ER diagram of Library management system (CO1)

Name: ..... Roll No: .....

Mangalmay Institute of Engineering and Technology, Gr. Noida

Subject Code:-BAS-102 **Subject Name:- Engg. Chemistry**

YEAR: - B.Tech. Ist Year **Branch:- CSE (Section A & B)**

2nd SESSIONAL EXAMINATION (ODD SEMESTER 2022-23)

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

COURSE OUTCOMES

CO1	Demonstrate the technique of water softening and fuel analysis. [KL-3]
CO2	Discuss the concept & preparation of polymers and organo- metallic compounds. [KL-2]
CO3	Discuss the concept of Atomic & Molecular Structures with examples[KL-2]
CO4	Explain the concept of Electrochemistry, Corrosion and Phase Rule with numerical. [KL-2]
CO5	Describe Spectroscopic Techniques and its applications. [KL-2]

SECTION-A

Q.1. Attempt all parts: **(2×5=10)**

(a) What is the difference between Gross calorific value and Net calorific value of a fuel? (CO1)

(b) Differentiate between Addition Polymerization and Condensation Polymerization with suitable example? (CO2)

(c) What do you mean by thermosetting and thermoplastic polymer? (CO2)

(d) Calculate the bond order of the following and comment on the magnetic behavior: N_2^+, N_2^-, N_2 (CO3)

(e) What do you mean by Nano-materials with suitable example? (CO3)

SECTION-B

NOTE: Attempt any four parts **(4x5=20)**

Q.2. 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 (CO1)

Q.3. 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)

Q.4. Explain what are composites? Give their classification and its advantages. (CO2)

Q.5. Describe what are conducting polymers? How many types of conducting polymers? Give their applications. (CO2)

Q.6. Describe the various types of Liquid Crystals? State the difference between Nematic and Smectic liquid crystal. (CO3)

Q.7. Describe the structure of Graphite. How it acts as conductor of electricity? (CO3)

SECTION-C

NOTE: Attempt any two parts: **(2x10=20)**

Q.8. Calculate the quantity of lime (74% pure) and soda (90%pure) for softening 50,000 liters of water containing the following salts $Mg(HCO3)_2$ = 50mg/L, $MgCl_2$ = 6 ppm, $Ca(HCO3)_2$= 81 mg/L, CO_2 = 44ppm, HCl =73mg/L, $Al_2(SO4)_3$ =57 mg/L. (CO1)

Q.9. Give the preparation, properties and applications of following polymers: NBR,NYLON-6, 6 , Terylene, Bakelite, Kevlar (CO2)

Q.10. Calculate the bond order of the following and comment on the magnetic behavior: O_2^+, O_2, O_2^- (CO3)

Name: ..... Roll No: .....

Mangalmay Institute of Engineering and Technology, Gr. Noida

Subject Code:-KCS-602 **Subject Name:- Web Technology**

YEAR:-3rd **Branch:-CSE/AI/DS**

1st SESSIONAL EXAMINATION (ODD SEMESTER 2022-23)

[Time: 2 *Hours]* ***[Total Marks:*30]**

COURSE OUTCOMES

CO1	Explain web development Strategies and Protocols governing Web.
CO2	Develop Java programs for window/web-based applications.
CO3	Design web pages using HTML, XML, CSS and JavaScript
CO4	Creation of client-server environment using socket programming.
CO5	Building enterprise level applications and manipulate web databases using JDBC
CO6	Design interactive web applications using Servlets and JSP

SECTION-A

Q.1. Attempt all parts: **(2×5=10)**

(a) What is internet and define its services? (CO1)

(b) What is difference between web 1.0 and 2.0? (CO1)

(c) Describe Attributes in XML.Also describe different types ofattributes. (CO2)

(d) What is DTD and also define its types. (CO2)

(e) Describe the Cascading Style Sheet (CSS) with an example use the Font Attributes (CO2)

SECTION-B

NOTE: Attempt any three parts **(3x5=15)**

Q.2. What is array in java? Define its type with advantages and disadvantages with example (CO1)

Q.3. What is difference between client side scripting and sever side script. (CO1)

Q.4. Create a web page giving the following traindetails. (CO2)

a) TrainName
b) StartingPlace
c) Destination
d) Arrival and Departuretime
e) Fare

Place a border for the table and use cell padding to present the cell data with clarity. Align the table in the center of the screen. Use a caption saying 'Time Table and Fare List'.

Q.5. What is the difference between DOM & SAX? Also explain advantages and disadvantages of SAX? (CO2)

SECTION-C

NOTE: Attempt any one parts: **(1x5=5)**

Q.6. What is logical operator in Java. Explain with the example. (CO1)

Q.7. Create HTML Page for following features: Create an unordered list Create an ordered listUse various bullet styles Created nested lists Use the font tag in conjunction with lists Create definition lists Use graphics as bullets. (CO2)