Code No.814/2851/CBCS

FACULTY OF ENGINEERING
B.E. (CSE) VIII-Semester (CBCS) (Main) Examination, September 2020

Subject : Mobile Computing (Elective-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 Define mobile computing. Give suitable example for mobile computing.
2 Write the benefits of spread spectrum.
3 What is uplink and downlink frequency band is GSM
4 How can efficient routing be done in satellite systems?
5 Differentiate piconet and scatternet.
6 List the features of extended service set.
7 Compare MANETS vs VANETS.
8 What is tunneling and encapsulation?
9 How does WAP 2.0 overcome problems of WAP 1.0
10 Why do you need special file systems for mobile networks?

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 a) Describe the 3-cell and 7-cell clustering used in cellular systems.
b) What is path loss of radio signal? Explain signal propagation effects.

12 a) How does the handover decision takes place in GSM depending on receivers signal strength? Explain.
b) Compare DAB and DVB

13 a) Explain the protocol stack of BLUETOOTH with diagram.
b) Draw and explain MAC frame format of IEEE 802.00 wireless LAN.

14 a) Differentiate DSDV routing with AODV protocol.
b) Why DHCP is used? Explain in detail.

15 a) What are the types of mobile transaction models? Explain any one.5
b) Contrast and compare Indirect TCP, snooping TCP AND Mobile TCP.

16 List out the different file systems along with elaboration.

17 Write short notes on
a) DSSS
b) Modulation techniques

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Code No: 816/2853/CBCS

FACULTY OF ENGINEERING

B.E. (CBCS) (CSE) VIII - Semester (Main) Examination, September 2020

Subject : Software Quality and Testing

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 What are the objectives of SQA Activities in Software Development?
2 How do Quality Control and Quality Assurance differ?
3 What are the benefits of preparing development plans for internal projects?
4 How can stubs and drivers be used in creating test cases?
5 Why it is extremely important to measure software quality using metrics?
6 What does 6-Sigma indicate? How can it be used to measure Quality?
7 Give example to bring out its importance your answer.2
8 Web-Based Systems need to be tested very thoroughly? What specific issues need to addressed in such a testing?
9 What are the challenges in testing software for functionality in Multi Platform Environments?
10 What is the use of JMeter as a testing tool? With specific use case emphasize its importance

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 a) What is the importance and consequences of the Seven characteristics of SQA environment?
b) What are the elements of the “Development Plan” and the elements of the “Quality Plan”?

12 a) Analyze the importance of various components of “Software Maintenance”.
b) What is the difference between Procedures and work instructions? List the activities involved in maintaining an organization’s procedure manual.

13 a) Describe the key process areas of each of the levels of CMM
b) ISO 9000 is considered as a standard for Quality Compliance. Explain with an example.

14a) What is the difference between Functionality testing and Regression testing? Are both types of testing required for each project?
b) What is the primary objective of Black – Box testing? What approaches are useful in implementing this? Explain with example.

15 a) What are the specific advantages and disadvantages of Commercial off the shelf software? Give specific use cases to justify your answer.
b) What is the importance of testing in multiplatform environment? What are critical use cases where it becomes extremely important to ensure the working of application in multiplatform environment?

16 a) What is the use of PCMM in ensuring quality?
b) What are the example use cases for JUNIT?

17. a) What are important considerations in evaluating test effectiveness?
b) Write short note on use of testing tool – LOADRUNNER with example use case for the same.

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Code No. 817/2854/CBCS

FACULTY OF ENGINEERING

B. E. (CSE/I.T.) (CBCS) VIII – Semester (Main) Examination, September 2020

Subject: Web Services & Architecture

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1. What is the use of SOAP fault?
2. What are the limitations of SOAP?
3. What is RMI?
4. What is the purpose of the WSDL language in the web services standard?
5. What are Web services?
6. What is SOA? What are its entities?
7. What is the expected impact of a security failure?
8. How to invoke the service?
9. What is UDDI?
10. What are the limitations of UDDI?

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11. Describe the architecture and the importance of SOAP?

12. a) Describe the usage of UDDI in error recovery?
    b) Explain the publishing of information to a UDDI registry?

13. Explain in detail XML security frame work?

14. a) Describe the steps of the Web Service life cycle with a neat diagram.
    b) Give a short note on WSDL tools.

15. What are the Security Considerations for Web Services?

16. What do you mean by service level agreements explain in detail?

17. With a neat diagram explain Basic structure of a BPEL document in detail?

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Code No. 869/2868/CBCS

FACULTY OF ENGINEERING
B. E. (I.T.) (CBCS) VIII – Semester (Main) Examination, September 2020

Subject: Distribution Systems (E - III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1. What are seven types of transparencies?
2. What are the main objectives of distributed systems?
3. What are the problems in home based approach in flat naming?
4. Define single-point-of-failure.
5. A distributed system may have multiple, independent resources. Imagine that process 0 wants to access resource ***A*** and process **1** wants to access resource ***B***. Can Ricart and Agrawala's algorithm lead to deadlocks? Explain your answer.
6. What kind of consistency would you use to implement an electronic stock market?
7. Draw the client server communication architecture.
8. What is Two-phase commit protocol.
9. A stateless server needs to take checkpoints. Why?
10. Draw the architecture for NFS in UNIX systems.

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11. a) Why would you design a system as a distributed system? List some advantages of distributed systems.
    b) What is paged based distributed shared memory systems?

12. a) What is name service? What are its goals? How it is implemented? What is directory service?
    b) Define remote procedure call. Explain how communication is made between server and client using RPC.

13. a) Draw the General Organization of COBRA Architecture and explain the Services.
    b) What is Election Algorithm? Explain in detail.

14. a) Explain the Replication in peer-to-peer File Systems.
    b) Write the client-centric consistency models. Explain any one Consistency model.

15. a) Distinguish between static and dynamic remote method invocations distributed object-based systems.
    b) Explain the decentralized coordination-based systems have inherent scalability problems.

16. a) How the write-ahead log in distributed transaction can be used to recover from failures. Explain.
    b) Explain the Chandy and Lamports snapshot algorithm for determining the global states of distributed systems.

17. a) Distinguish between message oriented communication and Stream oriented communication.
    b) What is a Mutual Exclusion? Explain Distributed Mutual Exclusion with example.

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Code No.821/2869/CBCS

FACULTY OF ENGINEERING
B.E. (IT) VIII-Semester (CBCS) (Main) Examination, September 2020

Subject : Machine Learning (Professional Elective-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 Classify the different types of Machine Learning algorithms.
2 What is version space?
3 What is linear separatibilty?
4 What are soft margin classifiers?
5 What is the Bias-Variance Tradeoff?
6 What is Markov Blanket?
7 What is Subagging.
8 Write about any two genetic operators. Give example.
9 Write the basic types of Bond Energy Algorithm.
10 What is an outlier? How outlier can be detected?

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 Explain ID3 Algorithm used for constructing decision tree with an appropriate example.

12 Explain any three applications problems that are solved using MLP.

13 a) Write the Forward Algorithm.
b) Explain Bayes optimal Classifier with example.

14 Explain the procedure involved in principal Components Analysis and list the applications of LSA.

15 a) Compare different Clustering Algorithms with its importance.
b) How Clustering Algorithms must be adapted for large database?

16 a) Write and explain Candidate-Elimination algorithm.
b) What is 'no-man's land' and explain the concept of support vectors with a suitable example?

17 Write short notes on
a) Gaussian probability distribution
b) Genetic Programming with suitable examples.
c) Nearest Neighbor Algorithm

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Code No. 874/2871/CBCS

FACULTY OF ENGINEERING

B.E. (I.T.) VIII-Semester (CBCS)(Main) Examination, September 2020

Subject : Data Science using R Programming (Elective-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 List the differences between vectors and list in R.
2 Write about type conversions in R.
3 What is data frame? Write its characteristics.
4 Write about plot function in R.
5 List mean, median, mode and standard deviation functions in R.
6 What is Multinomial regression? List the functions to build multinomial regression.
7 What is Complexity parameter in Decision Tree in R?
8 How to prepare data for cluster analysis in R?
9 What is Text Mining? List the packages used for text mining in R.
10 What are the issues in decision tree learning?

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 Explain control structures in R with example.

12 Write about scatter plot and histograms with examples. Explain its importance.

13 Explain linear regression and multiple regression with suitable examples.

14 What is Time Series? How to create a Time Series in R?

15 What is Association Mining? How to measure the strength of a rule? What are the functions used for Association Rule mining in R?

16 What is hierarchical clustering? How to compute and visualize hierarchical clustering in R?

17 Explain about descriptive statistics with suitable examples.

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Code No. 829/2800/CBCS

FACULTY OF ENGINEERING
B.E. (EEE) (CBCS) VIII-Semester (Main) Examination, September 2020

Subject : Electric Vehicle & Hybrid Electric Vehicle (E-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 What are the applications of electric vehicle?
2 What are the types of electric vehicle in use today?
3 Draw the performance characteristics of the following in electric motor
(a) Torque versus speed characteristics
(b) Power versus speed characteristics
4 Mention the general issues in design of electric vehicle?
5 What are the different electric vehicle motor sizing and types of motor?
6 What are the advantages and disadvantages of hybrid electric vehicle?
7 Bring out the difference between battery charging and fast charging?
8 How does the design of shape of a hybrid vehicle effect its performance?
9 Define state of charge and end of charge?
10 What is impact of plug in hybrid electric vehicles on distribution networks?

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 a) Discuss the current trends in Electric Vehicle Market?
b) Explain in short performance of electric vehicle?

12 a) Derive the equation responsible for modelling of electric vehicle considering rolling resistance?
b) How is electric vehicle motor sizing carried out?

13 Write a short note on any two of the following
a) Electric Vehicle Discharging
b) Electric Vehicle Capacity
c) Electric Vehicle Battery Performance

14 Describe the basic Architecture of hybrid electric vehicle?

15 Write a short note on technologies that have been developed for the usage of battery as storage source for EV and HEV application?

16 a) Write a short note on sizing ultra-capacitors for HEV
b) Explain the ideal gearbox steady state model

17 a) Write short note on modelling of EV range?
b) What are inter disciplinary nature of Hybrid electric Vehicle

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Code No. 831/2802/CBCS

FACULTY OF ENGINEERING

B.E. (CBCS (EEE) VIII-Semester (Main) Examination, September 2020

Subject : High Voltage DC Transmission (E-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 State Different kinds of HVDC links
2 What is meant by commutation failure
3 Draw the equivalent circuit of Inverter
4 Draw the combined characteristics of Rectifier and Inverter
5 What are the causes of arc-back?
6 Explain how power reversal is done in MTDC system
7 What is DC reactor
8 Dram the typical parallel MTDC system

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

9 a) Discuss the modern trends in DC transmission system
b) Explain the corona los in Ac & Dc systems

10. a) Write the operation of HVDC converter as an inverter
b) Explain the Analysis of three phase bridge rectifier with overlap angle

11. a) Explain the constant extinction angle control
b) Explain the constant minimum ignition angle control

12. a) Explain DC circuit breaker
b) Distinguish between characteristic and non – characteristic harmonics

13. a) Compare series and parallel MTDC systems
b) Explain the applications of MTDC systems

14. a) List out the advantages and disadvantages of HVDC transmission system
b) Explain current margin method

15. a) What are the merits and demerits of DC transmission over AC transmission?
b) Explain about the filters used to eliminate harmonics

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Code No. 883/2809/CBCS

FACULTY OF ENGINEERING
B.E. (Inst.) VIII-Semester (CBCS) (Main) Examination, September 2020

Subject : Automation in Process Control (Elective-III)

Time: 2 hours **Max. Marks: 70**

PART – A

Note: Answer any five questions. **(5x2 = 10 Marks)**

1 What are the essential challenges in interfacing input signals?
2 What are the different components of Data distribution system?
3 Write the steps involve in the configuration of SCADA systems.
4 List any six real time applications of DCS systems.
5 What is SCADA? How it is different from DCS?
6 List the different displays used in DCS systems?
7 What is distillation column?
8 Draw a few symbols to draw the mimic diagrams of industrial control systems.
9 What is a smart sensor? Why it is used in WSN?
10 List the topologies of field buses.

PART – B

Note: Answer any four questions. **(4x15 = 60 Marks)**

11 What is Solid slate Relay? Explain the operation of it using suitable diagram.

12 Explain the Data acquisition and Data distribution system.

13 a) What are the hierarchical stages of DCS system? Explain in detail.
b) Explain the need of DCS integration with PLCs.

14 What are RTU's? Explain with a block diagram.

15 With a neat diagram explain the on-line optimizing control of a Distillation column.

16 Write short notes on:
a) Input /Output devices
b) Device description language.

17 With a neat diagram explain the operation of smart differential pressure transmitter.

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Code No: 702/2297/O/NC

FACULTY OF ENGINEERING
BE 4/4 (Civil) II-Semester (Old) Examination, September 2020

Subject: Construction Management and Administration

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1 List the three types of Organization? Explain the suitability of each type for different construction agencies.
2 Explain the six major functions of Construction Management?
3 State the limitations of Bar charts?
4 List the documents included in Construction Contract.
5 Differentiate clearly total float, free float and independent float?
6 Write the standard form of LPP for the following LPP:
Maximize $Z = 3x_1 + 5x_2$
Subject to $2x_1 + 3x_2 \leq 4$, $3x_1 + 2x_2 \leq 7$, $x_1, x_2 \geq 0$
7 What is Critical Path Method?
8 Differentiate between variation of Direct cost and Indirect cost.
9 Explain the concept of PPP.
10 What is Optimistic time estimate and Pessimistic time estimate?

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11 (a) Describe the importance of construction management in national development?
(b) Explain in relation to network analysis, the terms Critical Activity, No-Critical Activity, Total Float, Independent Float and Free float.

12 (a) Explain the procedure for determining Optimum Cost and Optimum completion time for a project using CPM.
(b) Calculate the earliest start time, earliest finish time, latest start time, latest finish time and total free and independent floats in respect of all the activities of the network, shown in Fig.1.

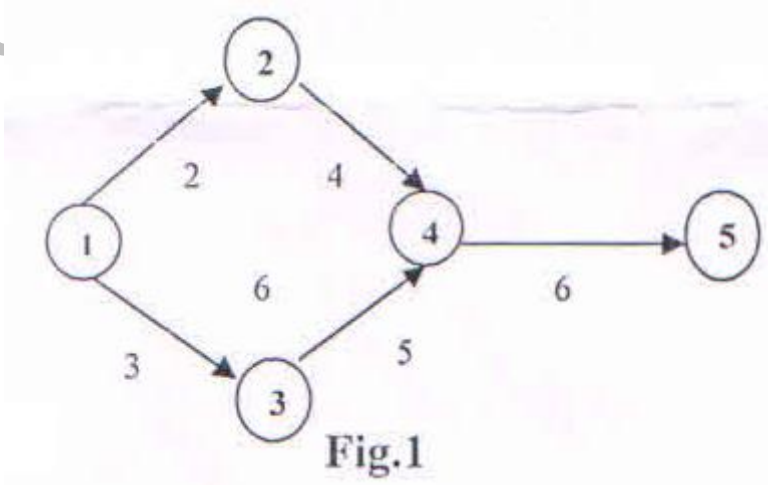

Fig.1

..2

13 Solve the following linear programming problem by simplex method?
Maximize $Z = 3X_1 + 2X_2$
Subject to constraints: $X_1 + X_2 \leq 4$
$X_1 - X_2 \leq 2$
$X_1 > X_2$

14 Solve the following linear programming model Graphically?
Maximize: $4X_1+4X_2$
Subject to: $-2X_1+X_2 \leq 1$
$X_1 < 2$
$X_1+X_2 \leq 3$
$X_1, X_2 \geq 0$

15 (a) Describe five main provisions of the Contract Labour Act,1970 (as amended in 1986).
(b) Explain Strategy of Safety Campaigns at work sites.

16 (a) List and Explain the advantages of planning by network techniques in comparison to planning by Bar charts.
(b) Explain the main conditions of a construction contract.

17 Write short notes on
(a) Float and its Types
(b) Slope of direct cost curve
(c) Tender Notice
(d) Safety in storage and handling of materials and equipments

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Code No: 701/2284/NC

FACULTY OF ENGINEERING
BE 4/4 (Civil) II-Semester (Backlog) Examination, September 2020

Subject: Estimating and Specification

Time: 2 hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1 State the different types of approximate estimate. Illustrate with an example?
2 List out methods of estimation. Differentiate between long wall and short wall method.
3 What is the balance depth of cutting and filling of road?
4 Draw a line diagram of a culvert and mention its different parts.
5 Draw and label the various types of canals.
6 What do you mean by schedule of rate?
7 Determine out the proportions of various materials required to prepare a 1 cubic meter of 1 : 6 cement mortar.
8 State the purpose of earnest money?
9 List out the essential requirements of contract?
10 State the principles in selecting units of measurement for items

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11 Estimate the following items from the fig.1 by using centre line method.
i) Excavation of foundation
ii) First class brick work from ground to plinth
iii) 12mm interior cement plastering for rooms in 1: 6

12 Estimate the quantities of earthwork with the following data. The formation width is 10m, side slope are 2:1 and a gradient is 1 in 300 upward. Formation level at 0 meter chainage is 110.0m

Chainage (m)	0	30	60	90	120	150
G.L	110	109	109.7	108.7	109.8	109.8

13 Calculate the quantity of earthwork in embankment for a portion of a channel with the following data:
Bed Width = 5 m; height of the bank from bed =2.55, Longitudinal slope is 1 in 5000 Slop of cutting = 1: 1 Slope in banking = 1.5 : 1; Full supply depth = 1m; Top width of left side bank =3m Top width of right side of bank = 1.5m.

Station (m)	1	2	3	4	5	9
Ground level (m)	100	100.31	100.52	100.57	99.68	99.21

Bed Level at station 1m R.L = 98.50m
Estimate the quantity of earth work in cutting and banking

14 Design and estimate septic tank for 20 users . Assume the data required suitably.

15 (a) Calculate the quantities of RCC slab 1 : 2 : 4 of thickness 150mm and inside dimensions 3m x 4m. Take 16mm dia for main reinforcement at 120mm c/c and 12 mm dia for distribution reinforcement at 150mm c/c spacing.
(b) Deduce for the extra length required in steel reinforcement bars bent at both ends at angles of (i) 30^o and (ii) 45^o

..2

16 Compute the unit rate for 1 : 2 : 4 with over burnt brick for 7.5 cm thick cement flooring. The labour requirement per cum is Head Mason 1/2no, Masons 10 nos and mazdoors 20 nos and the corresponding rate are Rs.450/-, Rs.400/-, Rs.350/- respectively. The cost of cement bag is Rs.350/- brick chips 20mm down Rs.2000/- per cum and sand Rs.1200/-cum.

17 Write a short note on any two of the following
a) Detailed Specification for various item of work
b) Various units and modes of measurement for different trades
c) Prepare a NIT for road work

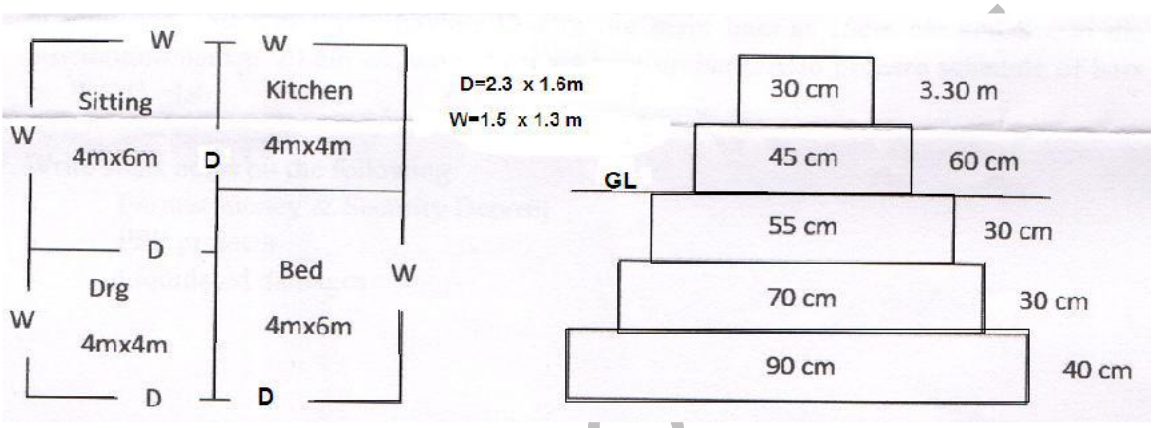

Fig. 1

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Code No: 715/2298/NC

FACULTY OF ENGINEERING

BE 4/4 (EEE/Inst.) II-Semester (Backlog) Examination, September 2020

Subject : Industrial Administration and Financial Management

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1. State advantages of Line organization
2. Sketch two types material flow patterns suitable for process plant layout
3. What are objectives of work measurement
4. Why are THERBLIGS used in work measurement
5. Where and why is Roving inspection is used in manufacturing plant
6. State the work progress control charts methods used in the shop floor of PPC
7. Explain MRP function
8. State the inventory models used in Material Management
9. What is the concept of depreciation
10. What is the concept of BEA used in Manufacturing plant

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11. a. Explain with sketch the functioning of Functional organization
    b. Sketch the 5 types of material flow patterns in the design of plant layout

12. a. Describe the procedure for conducting method study in Industrial organization
    b. Tabulate with activity symbols for the nut – bolt assembly by two hand activity at work place

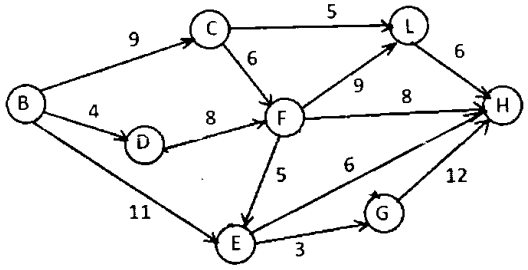
13. a. Explain the factors affecting scheduling in PPC both (i) Internal (ii) external
    b. Explain the Acceptance Sampling Inspection by attributes using OC curve

14. a. Explain EoQ model with (i) simple inventory, (ii) stock out allowed, (iii) under risk
    b. Explain ABC classification of materials in Materials Management

15. a. Explain the nature of cost (i) fixed, (ii) variable, (iii) semi variable, (iv) controllable (v) uncontrollable cost
    b. Explain the depreciation methods (i) straight line method (ii) Production based method

16 a. Explain different wage plans of worker in industrial organization (i) straight piece method (ii) Halsey Plan, (iii) Rowan Plan, (iv) Gantt plan, (v) Emerson Plan (vi) 100% bonus plan
    b. Explain the Process planning Procedure with respect to selection of (i) processes, (ii) materials, (iii) Jigs and fixtures, (iv) cutting tools and gages

17. a. What are function of BEA for Manufacturing view
    b. Determine the Critical Path in the network for given network given below



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Code No: 712/2315

FACULTY OF ENGINEERING
B.E. 4/4 II-Semester (Backlog) Examination, September 2020

Subject : Data Communication and Computer Networks

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1 What is a computer network? Give an example
2 What do you mean by framing.
3 What is the use of MAC sublayer?
4 What is the need for sliding window protocol?
5 Distinguish between connection oriented and connectionless service.
6 What is slotted AIOHA?
7 Compare between IPV4 and IPV3
8 Define terms: a) SNMP b) Jitter
9 Explain bit stuffing
10 Write notes on UDP

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11 Explain the functionality of layers of OSI model.

12 a) Write about any one multiple access protocol.
b) Differentiate between packet switching and circuit switching

13 a) Compare Broadcast and multicast Routing
b) Explain about the congestion control Algorithm

14 a) Explain in about internet network
b) Explain IPV4.

15 a) Explain the TCP protocol and segment header
b) Describe the architecture of WWW.

16 a) Give the detail about public key cryptography
b) Write about ATM AAL Layer protocol

17 Write short notes on any two of the following :
a) Go Back N ARQ
b) IEEE802.16
c) X.25

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Code No: 760/2339

FACULTY OF ENGINEERING

BE 4/4 (Mech./Prod.) II-Semester (Backlog) Examination, September 2020

Subject: Production and Operations Management

Time: 2 Hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1 What is meant by Incentive? Enlist any two types of Incentive plans.

2 Define the term Plant Layout and give its objectives.

3 What are the functions and Forecasting?

4 State about dependent and independent demand.

5 Briefly describe Delphi technique.

6 What are the functions and benefits of material requirement planning?

7 Define term Inventory. State reorder point.

8 Write about fixed order quantity system.

9 List out assumptions in EOQ.

10 Briefly explain Fulkerson's rule.

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11 Discuss the principle factors in selecting a location for an Industry, citing suitable example and comment strongly.

12 What is mean by Exponential smoothing? Somani Industries Ltd. has experienced the following demand for its "Personal Finance" software package.

Month	April	May	June	July	August	September	October	November
Period	1	2	3	4	5	6	7	8
Units	55	60	56	70	66	65	71	74

Develop an exponential smoothing forecast using α=0.4 and an adjusted exponential smoothing using α=0.4 and β=0.2

13 (a) Explain the Deterministic and Stochastic inventory model.

(b) Somani Industries Ltd. Uses 20,000 units per year of an item. The purchase price is Rs. 2/- per item. Ordering cost is Rs.30/- per order. Carrying cost per year is 14% of the inventory value. Find

i) EOQ

ii) The number of orders per year.

iii) If the lead time is 4 (four) weeks and assuming 50 (fifty) working weeks per year, find the reorder point.

14 What do you mean by Master Production Schedule plan? What are the measures to be taken for a good master production schedule design? Explain the objectives and functions of MPS.

..2

15 (a) Explain the various techniques of wage payment plans.
(b) Explain the methodology of forecasting by least square.

16 A small marketing project consists of the jobs in the table given below. With each job listed its normal time and a minimum of crash time (in days) and the cost (Rs. per day) of crashing each job are also given.

Job	Normal duration(days)	Min. (Crash) duration (days)	Cost of Crashing (Rs. Per day)
1-2	10	6	25
1-3	9	5	30
1-4	16	10	35
2-4	6	3	15
3-4	12	6	20
4-5	3	1	45

(a) What is the normal project length and min. project length?
(b) Determine the minimum crashing costs of schedules ranging from normal length down to, and including, the minimum length schedule. Overhead costs total Rs. 70/- per day. What is the optimum length schedule duration on each job?

17 Write short notes on the following.
i) Aggregate Planning
ii) MRP-I & II
iii) Work Measurement

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Code No: 730/2376/NC

FACULTY OF ENGINEERING

BE 4/4 (CSE) II Semester (Backlog) Examination, September 2020

Subject: Data Mining

Time: 2 hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1 What is normalization? Why is it needed?
2 Every ordinal attribute is nominal attribute Justify.
3 List the differences between OLTP & OLAP.
4 Mention the typical operations that can be performed on OLAP for multi-dimensional data with an example.
5 Explain briefly any four pattern evaluation methods.
6 When an item set is called frequent?
7 Differentiate between K-Means and K-mediods clustering.
8 What is the significance of confusion matrix?
9 What are outliers and list types of outliers?
10 What are the various ways of dealing with missing values?

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11 a) What are the steps in KDD process?
b) How do you assess the quality data? Give techniques for Data Transformation.

12 a) Distinguish the various schemas in Data Warehouse modelling.
b) Draw three-tier data Warehouse Architecture and explain various levels in the architecture.

13 Apply Apriori Algorithm for the following transactional database

Transaction ID	Items bought
1	C, B, H
2	B, F, S
3	A, F, G
4	C, B, H
5	B, F, G
6	B, E, O

(i) Mine all the frequent item sets .Assume the minimum support level is 30%.
(ii) Find all the association rules that involve only B, C,H
(in either left or right hand side of the rule). The minimum confidence is 70%.

14 Explain classification problem using decision trees.

15 Discuss various density based clustering methods.

16 (a) Compare Lazy and Eager Classifiers.
(b) Describe the steps to calculate information gain of the attributes to rank them with a suitable example.

17 Write a short note on
(i) Distance metrics.
(ii) Gini index.
(iii) Text mining

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Code No. 771/2390/NC

FACULTY OF ENGINEERING
B. E. 4/4 II – Semester (I.T) (Backlog) Examination, September 2020

Subject: Embedded Systems

Time: 2 hours **Max. Marks: 75**

PART – A

Note: Answer any seven questions. **(7x3 = 21 Marks)**

1. Give difference between Microprocessor and Microcontroller.
2. Explain the internal RAM Architecture of 8051 microcontroller.
3. Explain Data transfer and Logical instructions with example.
4. Write the functions of Rotate and Swap instructions in 8051.
5. Explain semaphores and write a short note on it.
6. Give the difference between OS and RTOS.
7. Differentiate Cross-Compiler and Cross Assembler.
8. What is Debugging? Explain Debugging Process.
9. What are the data types does the SHARC support?
10. What is instruction level Parallelism?

PART – B

Note: Answer any three questions. **(3x18 = 54 Marks)**

11. (a) Explain the internal Architecture of 8051.
    (b) Discuss the characteristics of embedded applications.

12. (a) Write an Assembly Language Program to find number of Odd and Even numbers in a series of numbers.
    (b) What is Cross compilation? Give some examples.

13. (a) Explain the interfacing of 8051 with D/A converter and its functions.
    (b) What is shared Data problem? Discuss the shared data problems and methods to protect them.
14. (a) Describe the Hard real time scheduling considerations.
    (b) Explain different types of embedded software development tools.

15. (a) Explain the architecture of CAN bus protocol in detail.
    (b) Explain the functionality of memory management in ARM Processor.

16. (a) Write about the flow of Jump and Call instructions with example.
    (b) Explain Timers and Counters in 8051 microcontroller.

17. (a) Write short notes on Interrupt Routines ion RTOS.
    (b) Write short notes on µ-COS.

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