Total No. of Printed Pages:2

SUBJECT CODE NO: H-229
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT/ECT/EE)
Elective-II : Advanced Business Application Programming - II
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Q.No.1 and Q.No.6 are compulsory.
ii) Attempt any two questions from the remaining questions of each section.
iii) Assume suitable data wherever necessary.

Section A

Q.1 Solve any five from following 10
a) What is Class Constructor?
b) Explain the term Object-Oriented Programming,
c) State use of Checkbox.
d) Define Interface.
e) What is Local classes?
f) Explain use of inheritance.
g) What is ALV?
h) What is Event?

Q.2 a) Explain how to create Tab strip controls. 08
b) Explain Sunscreen in details. 07

Q.3 a) Explain Down-cast using Inheritance. 08
b) Explain Implementing Polymorphism using Interface. 07

Q.4 a) Explain Implementing events in local classes. 08
b) Explain Implementing the singleton pattern 07

Q.5 Solve any three short notes. 15
a) UML
b) ABAP List Viewer (ALV)
c) Global Classes
d) Classes Using Friendship
e) Local classes

Section B

Q.6 Solve any five from following 10

a) Benefits of Web Dynpro
b) Shared objects
c) View layout in Web Dynpro
d) Object at Run time
e) RTTI Class / Hierarchy
f) Menu Exits
g) Shared Memory Areas

Q.7 a) Explain class-based exception and also write a process to debug it. 08
b) Define Global exception classes and also explain raise exception statement. 07

Q.8 a) Implement dynamic object creation and also explain process of implementing parameter p. 08
b) Explain Implicit enhancement in function module. 07

Q.9 a) Explain SAP Application Enhancement 08
b) How to implement enhancing menus using menu exits. Explain. 07

Q.10 a) Explain principles of Navigation with set-up navigation between views. 08
b) What do you mean by control structure? Explain the process of changing the context. 07

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-247
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (IT)
Elective-II: Image processing & Pattern Recognition
(REVISED)

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
ii) From the remaining questions solve any two questions from each section.
iii) Assume suitable data if necessary.

Section A

Q.1 Answer the following (any five) 10
a) What is image sensing?
b) Define spatial and intensity resolution.
c) Give the filter transfer function for ideal low pass filter,
d) What is a max spatial filter?
e) Give expression for 2D DFT.
f) Define unsharp masking.

Q.2 a) Explain the fundamental steps in DIP. 08
b) Elaborate following image enhancement techniques. 07
1) Gray level slicing
2) Power law transformations

Q.3 a) Discuss linear and non-linear smoothing spatial filters in detail. 08
b) Explain the concept of unsharp masking and high boost filtering. 07

Q.4 a) What is the role of image transforms in DIP? Elaborate Walsh hadamard transform. 08
b) Differentiate between 2D DFT and 2D DCT. 07

Q.5 a) Explain basic steps of filtering in frequency domain. 08
b) Describe the different types of adjacency with suitable example. 07

Section B

Q.6 Answer the following (any five) 10
a) Give the mark for point detection.
b) Define dilation operation.
c) What is a pattern?
d) Give any two simple boundary descriptors
e) What is template matching concept?
f) Define an edge.

Q.7	a) Describe the canny edge detection process.	08
	b) Explain the pixel based segmentation using thresholding.	07
Q.8	a) Elaborate the syntactic pattern recognition approach.	08
	b) Describe the Bayes decision theory for pattern recognition.	07
Q.9	a) What is image representation? Explain different approaches for region description.	08
	b) Elaborate the need for object recognition system with suitable application.	07
Q.10	a) Explain the region split and merge algorithm.	08
	b) Differentiate between statistical and neural network approaches for P.R.	07

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-245
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Elective-II : I- Phone Programming
(REVISED)

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B
1. Question No1 and 6 are compulsory
2. Attempt any two questions from the remaining section.

Section A

Q.1 Solve any two questions 10
a) Explain with example, inheritance concept in objective –C
b) What is objective –C?
c) Write the objective –C program for finding the size of data types.

Q.2
a) Define delegates and protocols in ios. 07
b) Explain @ property directory with its attributes 08

Q.3
a) Explain with program; polymorphism , dynamic binding in objective- C 08
b) Write a objective –C program for changing the case of letters. 07

Q.4
a) Explain foundation framework 08
b) Explain copying objects with program in objective –C 07

Q.5
a) What are objects classes? Explain with example 08
b) Explain Auto release pool and memory management? 07

Section B

Q.6 Solve any two questions 10
a) Explain Tab- bar application in ios
b) Write the features of ios
c) Draw and explain cocoa architecture for OSt

Q.7
a) Write the single view application in iphone using label Button. 07
b) Write single view application in iphone to display alert with message 08

Q.8
a) write the single view application in iphone by utilizing UITabBar controller 08
b) write a iphone application to show status bar 07

Q.9 a) Create the ios application to open the camera 08
b) Write a iphone application for Image view 07

Q.10 Write the ios application to register the details of a person (name , age , address , password) into SQLite. 15

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-238
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT/ECT)
Elective-II: Instructional Technology for E-Learning
(REVISED)

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B
i) Q. No. 1 from Section A and Q. No. 6 from Section B are compulsory
ii) From the remaining questions in Section A and Section B solve any two questions from remaining of each section

Section A

Q.1 Solve any one question from following 10
a) Explain the Kirkpatrick's four levels of training evaluation in detail
b) List and explain the models of blended learning
c) What are the different methods for content identification and analysis?

Q.2 a) List and explain the principles of adult learning in detail. 08
b) Why objective writing is important? Write and explain two examples of performance objectives 07

Q.3 a) What are importance factors to be considered for selecting delivery formats? Explain in detail 08
b) List instructional models. Explain various phase of ADDIE model 07

Q.4 a) Explain the performance levels in cognitive domain with examples 08
b) List and explain the roles of professionals involved in eLearning course development. 07

Q.5 a) Create a high level outline for an eLearning course on "Hotel and Tourism Business" for senior and mid-level mangers 08
b) What are the good practices for defining eLearning solutions 07

Section B

Q.6 Solve any one question from following 10
a) Explain the role of subject matter expert in eLearning course development with example
b) List and explain capabilities that an authoring tools should possess
c) List and explain any two open sources LMS solutions available in Market?

Q.7 a) Write the tips for content development and language style 08
b) Explain SCORM model in detail 07

Q.8	a)	Differentiate among programming tools and authoring tools	08
	b)	Explain with example the structuring of an interactive lesson	07
Q.9	a)	List and explain various communication tools used in eLearning	08
	b)	List and explain the elements of course design document	07
Q.10	a)	List and explain the different interactivity levels	08
	b)	Explain the different purposes of assessment test	07

Total No. of Printed Pages:2

SUBJECT CODE NO: H - 375
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Principles of Compiler Design
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Q. No. 01 and Q. No. 06 are compulsory.
ii. Attempt any two questions from each section.
iii. Assume suitable data, if necessary.

Section A

Q.1 a) What is cross compiler? Explain bootstrapping compiler? 05

b) Explain in brief any three compiler construction tools? 05

Q.2 a) Consider the grammar: 08
$E \rightarrow E + T/T$
$T \rightarrow T * F/F$
$F \rightarrow (E)/id$
Show the sequence of moves made by the shift, reduce parser on the input $id * id$.

b) Write a short note on input buffering? 07

Q.3 a) Explain canonical collection of sets of LR (0) items with example? 08

b) Explain NFA to PFA conversion algorithm? 07

Q.4 a) What is Lexical analysis? Explain with suitable example – tokens, patterns and lexemes? 08

b) Differentiate between Regular Expression (RE) Vs. Finite Automata (FA)? 07

Q.5 Write short note on (any three) 15

i) LEX
ii) Augmented grammar
iii) Input buffering
iv) FIRST & FOLLOW with example.

Section B

Q.6 a) Difference between quadruples, triples and indirect triples? 05

b) Explain role of code optimization in compiler designing with suitable example. 05

Q.7 a) What is peephole optimization? Explain the characteristics of peephole optimization? 08

b) What is syntax directed definition? Explain inherited and synthesized attributes? 07

Q.8 a) What is DAG? Construct the DAG for following basic block 08

D : = B * C
E : = A + B
B : = B * C
A : = E - B

b) Write a short note on register allocation and assignment? 07

Q.9 a) What is syntax tree? Explain it with suitable example? 08

b) What is back patching? How can back patching be used to generate code for Boolean expression? 07

Q.10 Write short note on : (any three) 15

a) Parser tree
b) Type checking & type conversion
c) Register allocation & assignments
d) Loop invariant variables

Total No. of Printed Pages:2

SUBJECT CODE NO: H-243
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT/ECT)
Elective-II : Cross- Platform Application Development
(REVISED)

[Time: Three Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Question No.1 and 6 compulsory.
ii. Attempt any two remaining questions from each section.
iii. Figures right indicates full marks.
iv. Assume suitable data if necessary.

Section A

Q.1	a)	Explain Xamarin with wrapped native APIs.	05
	b)	Write a short note on custom renderers.	05
Q.2	a)	Describe platform specific UI solution architecture.	07
	b)	List the available layouts? Explain any one of them.	08
Q.3	a)	Explain Navigation drawer using MasterDetailPage.	08
	b)	Explain android controls in detail.	07
Q.4	a)	Explain the term Data Adapters in detail.	05
	b)	What is cross platform application development & list & explain different cross platform application development tools.	10
Q.5	a)	List & explain views in detail.	08
	b)	Describe the term Carousel page in detail.	07

Section B

Q.6	a)	Write a short note on Custom Renderers.	05
	b)	What is cloud storage? How it used with mobile applications.	05

Q.7	a)	Explain Android Custom Renderers in detail.	07
	b)	Draw & explain overall architecture of Dependency service.	08
Q.8	a)	Describe in detail Native controls in renderer base classes.	08
	b)	What are different types of web services explain any one of them.	07
Q.9	a)	Explain Xamarin. Forms data binding.	08
	b)	Describe the term platform – Specifics in detail.	07
Q.10	a)	Write & explain steps of using SQLite Database.	07
	b)	Write a short note on: i) Messaging Center ii) Triggers	08

Total No. of Printed Pages:02

SUBJECT CODE NO: H-242
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT/ECT/EE)
Elective-II : Managing Advance Server
(REVISED)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B 1) Q.1 and Q.5 are compulsory.
2) Attempt any two questions from Q.2 to Q.4 and Q.6 to Q.8.

SECTION - A

Q.1 Attempt any two from following questions. 10

a) Give the rules of active network connection in windows firewall.

b) Describe types of backup.

c) Explain Active Directory Federation Services (ADFS).

Q.2 a) Introduce window server 2008 and 2012. 08

b) What is DNS? Explain in detail? 07

Q.3 a) What is file Server? How Share Folder is used? 08

b) Explain in brief Shadow Copy. 07

Q.4 a) What is DFS & how it is installed? 08

b) What is DHCP? How DHCP assigns IP addresses? 07

SECTION – B

Q.5 Attempt any two from following questions: 10

a) Explain Domain Controller (DC)

b) Explain Terminal Services

c) Explain IP Address & IP Classes

Q.6	a)	Write note on WDS image.	08
	b)	Explain Event Viewer with its types.	07
Q.7	a)	What is roll of server? Explain in detail.	08
	b)	Explain Remoter Access Services (RAS) in detail.	07
Q.8	a)	Draw and explain block diagram of OSI reference model.	08
	b)	Explain in brief Quota management.	07

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-119
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT)
Computer System Security and Laws
(Revised)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
i. Q. No. 1 and Q. No. 6 are compulsory.
ii. From the remaining questions in section A & B students are supposed to solve any two questions from each section.

Section A

Q.1	a)	Explain confidentiality, Integrity & availability in information security.	05
	b)	Describe any one mechanism of steganography.	05
Q.2	a)	Explain N/W security model in detail.	07
	b)	Which tools are popularly used by attackers to attack web-sites?	08
Q.3	a)	How access control mechanism is implemented in computer system. Explain with suitable block diagram	07
	b)	How does one prevent the misuse of another user's certificate in certificate based authentication?	08
Q.4	a)	What is the principle behind one-time pads? Why are they highly secure.	07
	b)	Discuss the possible attacks on RSA algorithm.	08
Q.5	a)	Differentiate between digital signature & digital certificate.	07
	b)	Explain the Kerberos in detail.	08

Section B

Q.6	a)	What is the purpose of SET protocol?	05
	b)	Define security in GSM & 3G	05
Q.7	a)	Why is the SSL layer positioned between application layer and the transport layer and what is the purpose of SSL alert protocol.	07
	b)	What are security services need to be incorporated in email? Explain PGP protocol.	08
Q.8	a)	Explain various laws for computer forensics.	07
	b)	Explain incident response policy, plan and procedure.	08

Q.9	a)	Explain IT ACT 2000 also mention salient features of this act.	07
	b)	Explain Role and Responsibilities of individual within information security organization hierarchy related to the security of computer system.	08
Q.10	a)	Explain the forensic analysis process of investigation action.	07
	b)	What are various forensic tools are available. Explain any two tools in detail.	08

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-149
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT)
Mobile Computing (CSE/IT)
[REV]

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B
i. Q. No. 1 & Q. No. 6 are compulsory.
ii. Attempt any two questions form remaining questions in each section.
iii. Assume suitable data it necessary.

Section A

Q.1 Solve [Any Two] 10
i) Give features of windows mobile O.S.
ii) Write detail about 46.
iii) Explain near & FAR terminal in MAC.

Q.2 a) Write about I phone OS & development technology. 08
b) Explain Android OS & Application installation. 07

Q.3 a) What are the difference between second generation mobile technology & third generation mobile technology 08
b) Explain inter system Handoff with diagram. 07

Q.4 a) Explain packet reservation multiple access & Reservation TDMA. 08
b) Explain the term interface in the space, time, frequency and code domain. 07

Q.5 a) Explain Roaming management under 557 with diagram 08
b) Explain TDMA with diagram. 07

Section B

Q.6 Solve [Any Two] 10
i) Write note on mobile IPV4
ii) Explain WAP stack
iii) Write about card & decks in wml

Q.7 a) Give detail about IP packet delivery in mobile IP with diagram. 08
b) Explain tunneling & encapsulation. 07

Q.8 a) Give detail about WAP client software & hardware. 08
b) Explain WAP gateway in details. 07

Q.9	a)	Explain phone com	08
	b)	Write a program in wml for student mark sheet to demonstrate subject & marks in table.	07
Q.10	a)	Explain GPRS Architecture in details.	08
	b)	Write wml program from demonstrating font styles & size.	07

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-246
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Elective-II : Hadoop Technology
[REV]

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B
1. Q.no.1 and Q.no.6 are compulsory
2. Attempt any two questions from Q.no.2 to Q.no.5 and from Q.no7 to Q.no 10 of each section
3. Figure to the right indicate full marks.

Section A

Q.1	a)	Explain characteristics of big data and its role in current world.	05
	b)	Explain advantages of Apache Hive over traditional Map reduce.	05
Q.2	a)	What are the modes that a Hadoop can run?	07
	b)	Discuss in brief about API for Map reduce framework.	08
Q.3	a)	Explain in brief about Data manipulation in HIVE.	08
	b)	Describe in brief about PIG commands.	07
Q.4	a)	Explain any three HIVE QL DDL commands with its Syntax and example.	08
	b)	Explain the basic template of a Map reduce program with an example.	07
Q.5	a)	Discuss in brief about the procedure for installation of HIVE.	07
	b)	Enlist and explain the relational operators in PIG.	08

Section – B

Q.6	a)	Explain HBase with its features.	05
	b)	Write advantages of HBase over rest of data storage techniques.	05
Q.7	a)	What is HBase? Explain architecture overview of HBase.	07
	b)	Explain HBase data model and schema design in detail.	08

Q.8	a)	Explain how to troubleshoot administrating of Hadoop.	08
	b)	Explain Data storage technologies in detail.	07
Q.9	a)	Explain Local Hadoop Cloudera with example.	07
	b)	Explain cloud Hadoop Amazon EMR in detail.	08
Q.10	a)	Explain with diagram cloud Hadoop Microsoft windows Azure.	08
	b)	Explain Incremental uploads for importing only new data.	07

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-185
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Soft Computing
(Revised)

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B 1) Q1 from section A and Q6 from section B are compulsory.
2) Attempt any two questions from the remaining questions in each section.
3) Assume suitable data, if necessary.

SECTION – A

Q.1 Attempt any two from following. 10

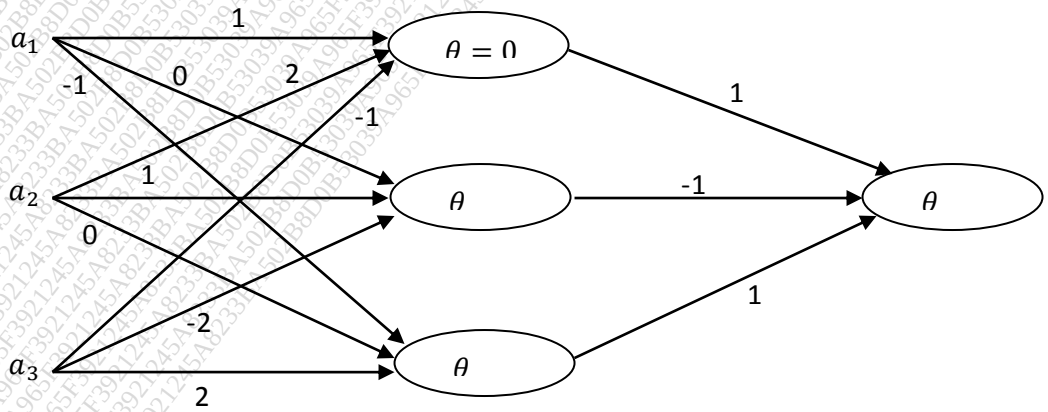
a) What are supervised learning and unsupervised learning?
b) How ANN is used for pattern recognition tasks? Explain.
c) What is soft computing? Differentiate between soft computing & hard computing.

Q.2 a) Discuss in details the implementation of OR gate using Mc Culloch Pitts neuron model. 07
b) Train the hetero associative memory network using outer product rule to store input row vector $S = [s_1\ S_2\ S_3\ S_4]$ to the output row vector $t = [t_1\ t_2]$ 08

Input & target	S_1	S_2	S_3	S_4	t_1	t_2
1st	1	0	1	0	1	0
2nd	1	0	0	1	1	0
3rd	1	1	0	0	0	1
4th	0	1	1	1	0	1

Q.3 a) Explain in details the algorithm for Hobbs rule used in pattern association. 08
b) Explain linear separable and non-linearly separable pattern with example. 07

Q.4 a) Give the o/p of the network for the $I/P[101]^T$ 10



b) What is a back propagation NN? Explain in details with neat diagram. 05

Q.5 Write short notes on (any three) 15

a) Signal layer and Multilayer network.
b) Error correction & gradient decent rule.
c) Basic functional units of ANN.
d) Auto association & hetro association.
e) Structure of biological neuron.

SECTION – B

Q.6 Attempt any two 10

a) Describe pattern clustering network.
b) Differentiate furzy set and crisp set.
c) Describe self organizing map.

Q.7 a) Explain the concept of furzification & defuzzification with example. 07

b) Design a Kohonen net with two cluster units & three I/P units. The weight vector for the close unit are (0.9, 0.7, 0.6) & (0.4, 0.3, 0.5). find the winning cluster unit for the I/P vector (0.4, 0.2, 0.1) use learning rate of 0.3. find the new weights for the winning unit. 08

Q.8 a) For the two given fuzzy sets. 08

$$\underset{\sim}{A} = \left\{\frac{0.1}{0} + \frac{0.2}{1} + \frac{0.4}{2} + \frac{0.6}{3} + \frac{1}{4}\right\}$$

$$\underset{\sim}{B} = \left\{\frac{1}{0} + \frac{0.5}{1} + \frac{0.7}{2} + \frac{0.3}{3} + \frac{0}{4}\right\}$$

Find the following

i) $\underset{\sim}{A} \cup \underset{\sim}{B}$
ii) $\underset{\sim}{A} \cap \underset{\sim}{B}$
iii) $\overline{\underset{\sim}{A}}$
iv) $\underset{\sim}{A} \cap \overline{\underset{\sim}{B}}$

b) Describe bi directional associative memory. 07

Q.9 a) What is genetic algorithm? Explain the working principles of genetic algorithm. 08

b) What do you mean by defuzzification? Discuss different methods of defuzzification. 07

Q.10 Write short note (Any Three) 15

a) Unsupervised learning
b) Learning Vector Quantization
c) Fuzzy If – then – rules.
d) Application of fuzzy control.
e) Properties of membership function.

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-186
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (IT)
Big Data Analytics
(Revised)

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B 1) Solve 3 questions from each section.
2) Question no.1 from section A and Question no.6 from section B, are compulsory.
3) From the remaining questions in section A and B, solve any two questions.

SECTION – A

Q.1	A)	Explain the role of hypervisor in virtualization.	05
	B)	Explain Semi structured data with examples.	05
Q.2	A)	Explain Big Data Management Architecture in detail.	07
	B)	Explain the impact when an organization can handle big data that is streaming in real time.	08
Q.3	A)	Explain following layers of big data stack in detail: 1) L4: Analytical data warehouses 2) L5: Introduction to big data analytics	07
	B)	Explain various types of virtualization in detail.	08
Q.4	A)	Discuss the difference between big data analytics and traditional analytics.	07
	B)	What is text analytics? Explain the process of text analytics for unstructured data with an example.	08
Q.5	A)	Explain how you integrate different data types into a big data environment.	07
	B)	What is NOSQL? Explain different kinds of NoSQL database with examples.	08

SECTION – B

Q.6	A)	Explain different kinds of hadoop projects that are hosted by apache software foundation.	05
	B)	Explain the use of Hadoop Archives in HDFS.	05
Q.7	A)	Explain how hadoop provides a reliable shared storage and analysis system in detail.	07
	B)	Explain the working of MapReduce analysis with an example.	08
Q.8	A)	Explain different kinds of hadoop filesystem interfaces with examples.	07
	B)	What is Hadoop? Explain the HDFS Architecture in detail.	08

Q.9	A)	Write a program using Hive to extract at least three columns from a given database file and insert it into a new table.	07
	B)	Discuss the Case Study: Hadoop and Hive at Facebook.	08
Q.10	A)	Explain different steps required for a client to write data to HDFS.	07
	B)	Explain in detail: Pig: Execution Types and Running Pig Programs.	08

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-340
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Parallel and Distributed Computing
(Revised)

[Time: Three Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B
- Solve 3 questions from each section.
- Question no. 1 from section A and Question no. 6 from section B, are compulsory.
- From the remaining questions in section A and B, solve any two questions.

Section – A

Q.1	a)	Explain the scope of parallel computing	05
	b)	State and explain the advantages of threaded programming models.	05
Q.2	a)	Explain Omega network with perfect shuffle used for inter connection pattern. Give example.	08
	b)	Explain the impact of memory bandwidth and measures to improve.	07
Q.3	a)	Write a short note on CUDA memory types.	08
	b)	Explain the method of data decomposition-partitioning output data with suitable examples.	07
Q.4	a)	Explain superscalar execution with an example.	07
	b)	Explain CUDA memory types in detail.	08
Q.5	a)	With a neat diagram explain the architecture of CUDA GPU	07
	b)	Explain the following i) Store and forward routing ii) Cut through routing.	08

Section – B

Q.6	a)	Distinguish between parallel systems and distributed system.	05
	b)	Explain the implementation issues of Distributed shared memory system.	05
Q.7	a)	With a suitable example explain the algorithm for logical clocks	08
	b)	Explain any tow consistency models in DSM.	07
Q.8	a)	Explain different operational modes of Hadoop and example configuration files for each.	08
	b)	Compare RPC and RMI. Also explain Java RMI in detail	07

Q.9	a)	Explain the following modes in Hadoop i) Local mode ii) Pseudo-distributed mode iii) Fully distributed mode.	08
	b)	Explain the Lamport's algorithm for mutual exclusion in detail.	07
Q.10	a)	With a neat diagram explain the anatomy of a Map Reduce program.	08
	b)	Explain in detail the building blocks of Hadoop.	07

Total No. of Printed Pages:03

SUBJECT CODE NO:- H-306
FACULTY OF SCIENCE & TECHNOLOGY
B.E.(CSE/IT)
Data warehousing and Data mining
(Revised)

[Time: Three Hours] **[Max.Marks: 80]**

Please check whether you have got the right question paper.

N.B
A. Q.1 and Q.6 are compulsory.
B. Assume suitable data if necessary and state it clearly.
C. Attempt any Two from remaining.

Section A

Q.1 a) Explain in detail need for data warehousing. 05
b) Compare Data warehouse with data mart. 05

Q.2 a) What is Decision support system? Describe different components of it. 07
b) What is necessity of data preprocessing? How to deal with missing values? 08

Q.3 a) Suppose a group of 12 sales price records has been sorted as follows 09

5 10 11 13 15 35 50 55 72 92 204 215

Partition them into three bins by each of the following methods
I) Equal frequency (equidepth) partitioning
II) Equal width partitioning
III) Clustering

b) Describe the ETL process in detail. 06

Q.4 a) What is data mining? Explain any one application of data mining in detail? 08
b) Explain the major issues in data mining? 07

Q.5 Write short notes (any three) 15
a) KDD process
b) OLAP operation
c) Snow flake Schema
d) Concept Hierarchy
e) Methods of measuring data dissimilarity
f) Steps to build data warehouse

Section B

Q.6 A Database has five records. Let minimum support = 2 and minimum confidence = 70% 10

TID	List of Items
T1	I1, I2, I5
T2	I2, I4
T3	I2, I3
T4	I1, I2, I4
T5	I1, I3
T6	I2, I3
T7	I1, I3
T8	I1, I2, I3, I5
T9	I1, I2, I3

a) Find all frequent item sets using Apriori Algorithm.
b) List all of the strong association rules (with support s and confidence c)

Q.7 a) Apply K-Means algorithm for the following data set. Take K=2. 10

Food item #	Protein content, P	Fat content, F
Food item #1	1.1	60
Food item #2	8.2	20
Food item #3	4.2	35
Food item #4	1.5	21
Food item #5	7.6	15
Food item #6	2.0	55
Food item #7	3.9	39

b) Explain cluster analysis with example. 05

Q.8 a) For the following dataset draw the decision tree? How root attribute selected? 10

TID	Refund	Martial-status	Taxable income	Cheat
1	Yes	Single	125k	No
2	No	Married	100k	No
3	No	Single	70k	No
4	Yes	Married	120k	No
5	No	Divorced	95k	Yes
6	No	Married	60k	No
7	Yes	Divorced	220k	No
8	No	Single	85k	Yes
9	No	Married	75k	No
10	No	Single	90k	Yes

b) Explain the Bayesian classification with example. 05

Q.9 a) What is business intelligence? Describe the framework of BI. 08
b) Describe major tools and techniques of BI. 07

Q.10 Write short notes (Any three) 15
a) K-Medoids algorithm
b) Market basket Analysis
c) Rule based classification
d) Types of data in cluster analysis
e) Linear regression

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-413
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Visual Modeling
(Revised)

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B
1) Q. No. 1 and Q. No. 6 are compulsory.
2) Attempt any two questions from the remaining questions of each Section.
3) Assume suitable data wherever necessary.

Section A

Q.1 Solve any two:- 10

a) Explain component diagram.
b) Explain concurrent design method.
c) Explain CRC cards.

Q.2
a) What is the UML approach to software development life cycle? Explain the various phases. 07
b) Compare algorithmic and oo decomposition. 08

Q.3
a) Define functional modelling & explain in detail using ATM system as example. 08
b) Enumerate the steps to forward engineering and reverse engineering a class diagram. 07

Q.4
a) Explain the importance and features of component diagram. 07
b) Explain the notations, features and importance of deployment diagram. 08

Q.5
a) Draw and explain activity diagram for library management system. 07
b) Draw and explain collaboration diagram for courseware management system. 08

Section B

Q.6 Solve any two:- 10

a) Explain spelling checking and hyphenation in document editor.
b) How to use a design pattern?
c) Explain design pattern in small tack MVC.

Q.7
a) Explain design aspects that design pattern let you vary. 07
b) Explain proto type design pattern with suitable example. 08

Q.8
a) Explain command design pattern using document editor as example. 07
b) Explain consequences and implementation of observer design pattern. 08

Q.9	a)	Explain strategy design pattern in detail.	07
	b)	Explain adaptor design pattern using drawing editor as example.	08
Q.10	a)	Explain problem's in Lexi design.	07
	b)	Explain use of structural design pattern.	08

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-414
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (IT)
E-Business Management
(Revised)

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B
1) Q. No. 1 and Q. No. 6 are compulsory.
2) Attempt any two questions from the remaining questions in each Section.
3) Assume suitable data if necessary.

Section A

Q.1	a)	What is e-Business? Explain its characteristics.	05
	b)	Explain e-Business roles and their challenges.	05
Q.2	a)	What is the importance of e-Business strategy? Explain supply chain management.	07
	b)	What is an e-Business model? Explain its classification with suitable diagrams.	08
Q.3	a)	With a suitable diagram explain, e-Business architecture.	07
	b)	What is CRM? Explain CRM process competencies.	08
Q.4	a)	Write a suitable diagram explain, selling chain management.	07
	b)	With suitable examples explain impacts of e-Business.	08

Q.5 Write short notes on the following (any three) 15
1) e-Business requirements
2) Strategic positioning
3) New Customer care objectives
4) Building a CRM infrastructure

Section B

Q.6	a)	What is enterprise resource planning? Explain ERP decision.	05
	b)	Explain supply chain planning.	05
Q.7	a)	What is the significance of e- procurement? Explain integrating ordering and fulfillment and payment.	07
	b)	Explain in detail three layer BI architecture.	08
Q.8	a)	Explain business process management.	07
	b)	Explain:- 1) Role of IT in business process 2) Business management strategy (six sigma)	08

Q.9 a) What are e-markets? Discuss e-market success factors. 08

b) Explain in detail e-Business Risks. 07

Q.10 Write short notes on the following:- (Any three) 15

1) e- Business quality requirements.
2) ERP implementation
3) Enterprise application integration
4) Types of Business processes

Total No. of Printed Pages:02

SUBJECT CODE NO:- H-244
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE)
Elective – II : Network Infrastructure Management
(Revised)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Question no.1 and 6 are compulsory.
ii) Attempt any two from the remaining in each section.

Section A

Q.1 Solve any two. 10

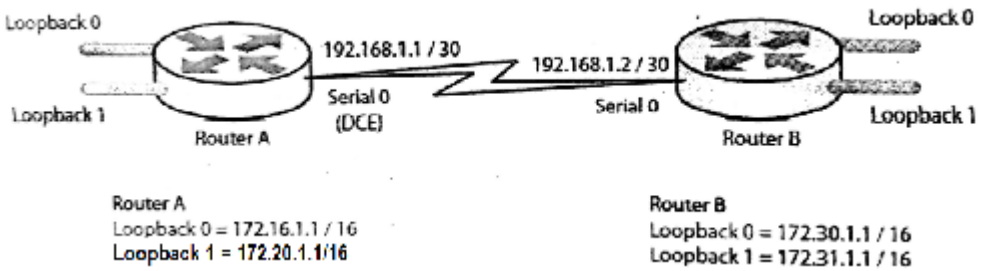
1. Write down the initial switch configuration such as setting up the administrative VLAN, setting IP address, password, Clock rate, Hostname and saving the configuration?
2. What is ether channel? How it is used in switch?
3. How can we avoid the routing loops?

Q.2 a) Subnet the n/w address 07
i) 192.168.100.0 using the subnet?
ii) mask 255.255.255.240
iii) and answer the following
a) how many subnets
b) how many host per subnet
c) what are the valid subnet
d) what is the broadcast address of each subnet
e) what are the valid host

b) Define network address and broadcast addresses? What are the reserved Private IP addresses for Class A, B and C? 08

Q.3 a) What do you mean by port security? How the port security can be implemented in a cisco switch? 07

b) Configure the network to allow full connectivity using the routing protocol EIGRP. 08
1. Use the IP addressing scheme depicted in Figure. Router A needs to be configured with a clock rate on interface serial 0. Set this to 64000.



Q.4	a)	Explain the Fiber channel protocol stack in the SAN?	07
	b)	What are the common protocol of Storage Area Network?	08
Q.5	Solve any three		15
	a)	Supernetting	
	b)	RIP	
	c)	VLAN	
	d)	NAS	

Section B

Q.6	Solve any two		10
	1)	Give the brief description of following objects at, ip, icmp, tcp, udp?	
	2)	Differentiate between switch based and server based load balancing?	
	3)	What is the role of SMI and MIB in Security management?	
Q.7	a)	Explain SNMP concept? And component of n/w management?	07
	b)	What is SMI and there attributes of SMI to handle an object?	08
Q.8	a)	Define performance management by using measurable quantities like capacity, traffic throughput and response time?	07
	b)	What is network management? Discuss any one network management tool in detail.	08
Q.9	a)	Describe the traffic flow of NAT based SLB?	07
	b)	Describe the traffic flow of FLAT based SLB?	08
Q.10	Solve any three.		15
	a)	SNMP	
	b)	RMON	
	c)	Configuration management	
	d)	FLAT based SLB	

Total No. of Printed Pages: 02

SUBJECT CODE NO:- H-241
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT)
EL- II : Agile Methodology
(Revised)

[Time: Three Hours] **[Max. Marks: 80]**

Please check whether you have got the right question paper.

N. B
1. Q. 1 & Q. 6 are compulsory question.
2. Attempt any two questions from Q. 2 to Q. 5 and Q. 7 to Q. 10.
3. Assume suitable data if necessary.

Section A

Q. 1 Solve any two questions. 10
a) Explain any four practices of extreme programming.
b) Explain product backlog in scrum.
c) What is the difference between Epic, Task and User story?

Q. 2
a) What is TDD? Explain the process of TDD with diagram. 08
b) Explain characteristics and content of user stories with suitable example. 07

Q. 3
a) What is agile development model? Explain the different methodologies in agile software development. 08
b) Explain the following term. 07
I] Story Point II) Spike III) Product Owner IV) Scrum Master

Q. 4
a) Explain following meeting of Scrum. 08
I] Sprint planning
II] Sprint review
III]Sprint Retrospective
IV] Daily Scrum

b) Describe agile life cycle. 07

Q. 5
a) Explain Lean software development. 08
b) Explain planning Poker. How Agile planning and estimation done? 07

Section B

Q. 6
a) What are the SOLID principle? 05
b) What is version control system? 05

Q. 7
a) Explain the different role in agile project. 08
b) Describe the different benefits of agile methodology in business. 07

Q. 8	a)	Describe continuous integration. Explain the process of CI with suitable example.	08
	b)	Explain role of agile in distributed team.	07
Q. 9	a)	What is refactoring? Explain any four techniques of refactoring.	08
	b)	Describe state dependency inversion principle.	07
Q. 10	Write a note on-		15
	a)	Agile design practices	
	b)	Agile design	
	c)	Agile ALM	

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-240
FACULTY OF SCIENCE AND TECHNOLOGY
B.E. (CSE/IT)
Elective – II : Green IT
(Revised)

[Time: Three Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B
1. Q. No. 1 and 6 are compulsory.
2. Solve any two questions from Q.2 to Q.5 for section A and any two questions from Q.7 to Q.10 section B.
3. Assume suitable data if necessary.

SECTION – A

Q.1 a) Describe the holistic approach of GIT. 06
b) Explain in brief, following terminologies: 04
i) Green house Gas
ii) Green software

Q.2 a) Explain following processor power states: 07
1) C – states
2) P – states
b) Describe the impact of algorithm performance on energy saving. 08

Q.3 a) Explain Following: 07
i) Idle efficiency
ii) Data efficiency
b) Describe following software attributes that are relevant to sustainability performance of software 08
i) Development Related Attributes
ii) Process related attributes

Q.4 a) Describe following tools: 08
i) Power Informer
ii) Energy checker
b) Elaborate on the energy challenges for the data centres. 07

Q.5 a) Explain following energy management techniques for hard disks. 07
i) State transitioning
ii) Caching
b) Specify the common techniques for managing system – level energy management. Elaborate on RAID with power awareness. 08

SECTION – B

Q.6	a)	What are the objectives of Green Network Protocols?	06
	b)	What are the challenges of Next – Generation Networks?	04
Q.7	a)	What are the strategies to reduce carbon emissions for total business life cycle?	07
	b)	Explain Green Cloud Architecture in brief.	08
Q.8	a)	What are the components of Environmental Management Information Systems(EMIS)? Explain any one in detail.	07
	b)	Explain the importance of EPEAT.	08
Q.9	a)	Describe the features of cloud that enable Green Computing.	07
	b)	How is RFID helpful for Environmental Sustainability?	08

Q.10 Write short note on any three of the following: 15

1) EMAN
2) Organisational & Enterprise Greeing
3) ERP challenges and Deficiencies with respect to EMIS
4) SSDS (Solid state Drives)

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-239
FACULTY OF SCIENCE & TECHNOLOGY
B.E. (CSE)
Ele. – II : Remote Sensing and Geographical Information System
(Revised)

[Time: Three Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.

N.B i) Q. No.1 and Q. No.6 are compulsory.
ii) Attempt any two questions from the remaining questions of each section.
iii) Assume suitable data wherever necessary.

Section – A

Q.1 Solve any two. 10

a) Explain Principal of remote sensing
b) What is electromagnetic radiation?
c) Explain interaction of EMR with the Earth Surface

Q.2 a) Explain Reflectance characteristics of Earths cover type 07
b) Explain types of sensors. 08

Q.3 a) Explain temporal resolution 07
b) Explain elements of image interpretation. 08

Q.4 a) Explain interpolation methods in the rectification of images. 07
b) Explain geo-referencing. 08

Q.5 a) Explain spectral signatures and their interpretation. 07
b) Explain properties of digital remote sensing data. 08

Section B

Q.6 Solve any two. 10

a) What are the Image enhancement techniques?
b) Explain supervised Image classification techniques.
c) Explain need for GIS.

Q.7 a) Explain Data Models in GIS. 07
b) Explain Vector data analysis in detail. 08

Q.8 a) Explain web GIS in detail. 07
b) Explain unsupervised Image classification techniques. 08

Q.9	a) Describe aerial photographs and GIS.	07
	b) Explain data display and cartography.	08
Q.10	a) Explain Raster data analysis	07
	b) Explain Coordinate System in GIS.	08