

**SUBJECT CODE NO: E-22**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT) Examination Nov/Dec 2017**  
**Computer System Security and Laws (CSE-IT)**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i) Q.1 and Q.6 are compulsory.
  - ii) Attempt any two questions from Q.2 to Q.5 and Q.7 to Q.10

**Section A**

- |     |  |                     |
|-----|--|---------------------|
| Q.1 | What is the role of firewalls in network security? Explain types of firewalls and its functionalities.   | 10                  |
| Q.2 | <ul style="list-style-type: none"> <li>a) Explain any four substitution techniques.</li> <li>b) Explain network security model</li> </ul>              | <p>08</p> <p>07</p> |
| Q.3 | <ul style="list-style-type: none"> <li>a) Describe extensible Authentication protocol (EAP).</li> <li>b) Explain Digital Signature.</li> </ul>         | <p>08</p> <p>07</p> |
| Q.4 | <ul style="list-style-type: none"> <li>a) Explain RSA with example.</li> <li>b) Explain Date encryption standard (DES)</li> </ul>                      | <p>08</p> <p>07</p> |
| Q.5 | <ul style="list-style-type: none"> <li>a) Explain Role based and Rule based Authentication</li> <li>b) Explain Active attacks with example.</li> </ul> | <p>08</p> <p>07</p> |

**Section B**

- |      |  |                     |
|------|--|---------------------|
| Q.6  | Explain with example Secure Electronics Transaction (SET).   | 10                  |
| Q.7  | <ul style="list-style-type: none"> <li>a) Explain working of Pretty Good Privacy (PGP) protocol.</li> <li>b) Write a short note on security in 3G.</li> </ul>  | <p>08</p> <p>07</p> |
| Q.8  | <ul style="list-style-type: none"> <li>a) What is the standard procedure to handle incident.</li> <li>b) Explain TLs and TLS Record protocol. Also explain TLS Handshake.</li> </ul>   | <p>08</p> <p>07</p> |
| Q.9  | <ul style="list-style-type: none"> <li>a) What is cyber forensics? Explain procedure of cyber forensics.</li> <li>b) Explain incident response policy, plan and procedure.</li> </ul>  | <p>08</p> <p>07</p> |
| Q.10 | <ul style="list-style-type: none"> <li>a) What are the objectives of ITACT 2000. Write any three offences and corresponding penalties mentioned in ITACT2000.</li> <li>b) Explain any two computer forensics tools.</li> </ul> | <p>08</p> <p>07</p> |

**SUBJECT CODE NO:- E-49**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT) Examination Nov/Dec 2017**  
**Mobile Computing (CSE-IT)**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- 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<br>a) Explain radio interface.<br>b) Explain hidden and exposed terminals.<br>c) Explain hand over. | 10       |
| Q.2 | a) Explain signal propagation effects in mobile computing<br>b) Explain time division multiplexing.               | 08<br>07 |
| Q.3 | a) Explain frequency hopping spread spectrum.<br>b) Explain FDMA  | 08<br>07 |
| Q.4 | a) Compare blackberry and android OS.<br>b) Explain cellular system.  | 08<br>07 |
| Q.5 | a) Explain multiple access with collision avoidance.<br>b) Explain 4G in detail                                   | 08<br>07 |

**Section B**

- |      |  |          |
|------|--|----------|
| Q.6  | Solve any two<br>a) Explain IPV6<br>b) Explain WAP<br>c) Explain TCP snooping                                      | 10       |
| Q.7  | a) Explain phone.com extension<br>b) Explain fusions of long library in WML script                                 | 08<br>07 |
| Q.8  | a) Explain WAP gateway in detail<br>b) Explain creating table in WML with example.                                 | 08<br>07 |
| Q.9  | a) Define events. Explain events in WML script with example<br>b) Write a WML program to receive inputs from user. | 08<br>07 |
| Q.10 | a) Explain IP-in-IP in detail<br>b) Explain header of IPV6   | 08<br>07 |

Total No. of Printed Pages:2

**SUBJECT CODE NO: E-82**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Soft Computing**  
**(REVISED)**

[Time: 3:00 Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

N.B

- i. Question.No.1 and Question. No.6 are compulsory.
- ii. Attempt any two questions from each section from remaining.
- iii. Assume suitable data if necessary and state it clearly.

**Section A**

- Q.1 Answer the following: (Any two) 10
- i. Define soft computing. Differentiate soft computing and hard computing.
  - ii. What is linearly separable and linearly non separable problem? Explain it with example.
  - iii. Explain auto associative memory network and hetero-associative memory network.
- Q.2 a) Explain mcculloch pitts model. 07
- b) Explain different pattern recognition tasks performed by basic functional units of ANN. 08
- Q.3 a) Explain the perception learning algorithm for pattern classification. 08
- b) Which are the different factors that affect the performance of back propagation learning algorithm explain. 07
- Q.4 a) Explain auto association and hetero association. 07
- b) Explain hopfield network with example. 08

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- Q.5 a) Explain learning vector Quantization. 07  
 b) Explain self organizing map. 08

**Section-B**

- Q.6 Answer the following. (any two) 10  
 a) Explain pattern clustering and feature mapping with example.  
 b) Explain properties of fuzzy set.  
 c) Explain applications of self organizing map.

- Q.7 a) Explain how competition is performed using neural network? Give applications of competitive learning neural network. 07  
 b) Explain fuzzification and defuzzification to crisp set with example. 08

- Q.8 a) Explain following operations in fuzzy relational algebra with example. 08  
 i) Join  
 ii) Union  
 iii) Projection  
 iv) Selection  
 b) What is the difference between similarity and possibility based approaches of fuzzy databases. 07

- Q.9 a) Explain fuzzy object oriented databases with example. 07  
 b) Explain working principle of genetic algorithm. 08

- Q.10 Write short notes on. (any three) 15  
 i) Applications of genetic algorithm.  
 ii) Properties of membership functions.  
 iii) Fuzzy object oriented databases.  
 iv) Learning vector quantization.  
 v) Applications of fuzzy control.

Total No. of Printed Pages:1

**SUBJECT CODE NO: E-136**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT) Examination Nov/Dec 2017**  
**Elective-II: Green IT (CSE-IT)**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- i) Question No.1 and 6 are compulsory.
  - ii) Attempt any two questions from each section.
  - iii) Figures right indicates full marks.
  - iv) Assume Suitable data if necessary.

**Section A**

- |     |  |    |
|-----|--|----|
| Q.1 | a) Explain the drawbacks of global warming on environment.                         | 05 |
|     | b) Explain role of software in Green IT infrastructure.                            | 05 |
| Q.2 | a) What is Green IT? Explain dimensions of Green IT.                               | 08 |
|     | b) Explain sustainable software methodologies in detail.                           | 07 |
| Q.3 | a) Write a short note on: i) Networking in data centre ii) Storage in data centre  | 08 |
|     | b) Explain 3 R's of Green IT.  | 07 |
| Q.4 | a) Explain term data efficiency in software energy efficiency technique.           | 08 |
|     | b) Write a short note on: i) RAID with power awareness ii) Power aware data layout | 07 |
| Q.5 | a) Explain life cycle of device or hardware.                                       | 08 |
|     | b) What is green data centre & explain associated energy challenges.               | 07 |

**Section B**

- |      |  |    |
|------|--|----|
| Q.6  | a) Explain the cost associated with IPv4.                                    | 05 |
|      | b) Describe the term green marketing.  | 05 |
| Q.7  | a) Which domains are considered with energy efficiency network requirements? | 08 |
|      | b) Draw & explain Cloud usage model in detail.                               | 07 |
| Q.8  | a) How RFID is used for environmental sustainability.                        | 08 |
|      | b) Explain TCP cost in detail.   | 07 |
| Q.9  | a) Write a note on: IAAS Provider.   | 08 |
|      | b) Write a short note on EMIS.   | 07 |
| Q.10 | a) Explain core components in green networking.                              | 08 |
|      | b) Explain the term Green Cloud Computing.                                   | 07 |

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Total No. of Printed Pages:2

**SUBJECT CODE NO: E-140**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Elective-II: I- Phone Programming**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- i) Question No.1 & Question.No.6 are compulsory.
  - ii) Attempt any two questions from remaining questions from each section.

**Section A**

- Q.1 Write short notes on any two. 10
- a) NS Number
  - b) Interface builder
  - c) X – Code
- Q.2 a) Write a sample program using looping statements to find whether a person is eligible for voting or not. 07
- b) Explain in detail the concepts of Inheritance and polymorphism. 08
- Q.3 a) Depict in detail foundation framework, Number Objects, and String Objects. 07
- b) What is Object? Explain in detail Instances and methods. 08
- Q.4 a) In order to manage Files and directories. Explain in detail NS File Manager, NS Data Class with a Sample Program. 07
- b) Explain significance of Auto release, protocols and delegates classes in Objective-C. 08
- Q.5 a) Explain in detail the underlying concepts of C language features used in Objective-C. 07
- b) Explain how to implement the <NSCopying> protocol in Objective-C. 08

**Section B**

- Q.6 Write short notes on any two. 10
- a) Cocoa Touch
  - b) UI Button
  - c) Emulator
- Q.7 a) Explain in detail about UI Slider and UI Switch. with sample code. 07
- b) Explain how to Copy objects using setter and getter methods with a Sample code. 08

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- Q.8 a) Write down the steps to utilize SQLite database in Objective-C. 07  
b) Explain in detail with sample code about Camera Control. 08
- Q.9 a) Write steps to create iphone application with X-code. 07  
b) What is Action, Outlet and View Controller in Objective-C. 08
- Q.10 a) Write a program to Show use of webview. 07  
b) How to create navigation base application in ios. 08

Total No. of Printed Pages:2

**SUBJECT CODE NO: E-141**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Elective-II: Hadoop Technology**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

N.B

- i) Question No.1 and Question No.6 are compulsory.
- ii) Attempt any two from remaining Questions in each section.

**Section A**

- Q.1 Write short notes on any two. 10
- a) Types of data
  - b) Apache Pig Overview
  - c) HiveQL
- Q.2 a) Explain in detail about technologies being used to handle and process big data. 08
- b) Explain in detail NOSQL and CAP theorem. 07
- Q.3 a) Explain in detail various relational operations in Pig Latin. 08
- b) Explain in detail various functions and expressions in Pig Latin. 07
- Q.4 a) Explain in detail partitioned managed tables and external partitioned table in Hive. 08
- b) Explain in detail about Hive components. 07
- Q.5 a) Explain in detail about scalar and complex data types. 08
- b) Explain name Node, Data Node, Job tracker and task tracker in detail. 07



## Section B

- Q.6 **Attempt any two of the following.** 10
- a) Brief on column family.
  - b) Differentiate between Sqoop and Flume.
  - c) Write short notes on YARN.
- Q.7 a) Explain with sample example how we can troubleshoot hadoop & Administer Hadoop Cluster. 08
- b) Brief in detail about Amazon EMR. 07
- Q.8 a) If we have data in a relational database and we need to transfer the table's contents into Hadoop's HDFS then which tool is used? Brief on it with the Query. 08
- b) Brief how to import subset of data, importing only new data into HDFS. 07
- Q.9 a) Explain in detail HBase Architecture. 08
- b) Differentiate between HBase and RDBMS. 07
- Q.10 a) Describe CRUD operations with HBase's get, put and delete commands. 08
- b) Describe about different Cloud providers who are providing Hadoop-as-a-Service. 07

Total No. of Printed Pages:2

**SUBJECT CODE NO: E-202**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/ IT) Examination Nov/Dec 2017**  
**Data Warehousing & Data Mining (CSE-IT)**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

N.B

- i) Q.1 and Q.6 are compulsory.
- ii) Solve any two from question 2,3,4,5 and any two from question 7,8,9,10.

Section A

- |     |   |    |
|-----|---|----|
| Q.1 | a) What is data mining & Explain its application in web search engine.  | 04 |
|     | b) Explain snowflake schema using diagram.  | 03 |
|     | c) What is histogram? Explain its use in data preprocessing.  | 03 |
| Q.2 | a) Draw and explain multi-tier architecture for data warehousing.   | 08 |
|     | b) Explain various proximity measure for binary and ordinal attributes.   | 07 |
| Q.3 | a) What is data discretization and data normalization? Explain various techniques for data discretization.  | 08 |
|     | b) Define range, Quartiles, Inter quartile range, boxplot & outlier give one example for each.  | 07 |
| Q.4 | a) Consider the following data values 10000, 30000, 40000, 60000, 80000 and apply min-max normalization, z-score normalization and decimal scaling normalization. | 08 |
|     | b) Explain various steps in data preprocessing.   | 07 |
| Q.5 | a) Calculate correlation coefficient and covariance of numeric data given in following table.   | 08 |

Time Point	All Electronics	Hitech
+1	6	20
+2	5	10
+3	4	14
+4	3	5
+5	2	5

- |  |    |
|--|----|
| b) Explain various trends in data mining | 07 |
|--|----|

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Section-B

- Q.6 a) Explain the technique of classification with suitable example. 04  
 b) Distinguish between supervised and unsupervised classification. 03  
 c) Define support, confidence and minimum support count. 03
- Q.7 a) What is Decision tree? Explain various attribute selection measure for decision tree. 08  
 b) Explain business –pressure – response support model with diagram. 07
- Q.8 a) Consider the following dataset with 7 Transaction. Find frequent itemset using apriori algorithm and also generate association rules (MSC=2, min-sup = 70%) 10

transaction	item bought
To1	A, D, B
To2	A, C, D
To3	D, C,
To4	A, D
To5	C, D, B
To6	A, C, D

- b) Explain linear & non linear regression with example. 05
- Q.9 a) Apply the decision tree (ID3) classification algorithm on following dataset & find decision tree. 10

Name	Experience	Qualification	Class allotted
P	06	PhD	PG
Q	10	ME	PG
R	8	ME	UG
S	3	PhD	PG
T	6	ME	UG
U	7	ME	UG
V	15	ME	PG

- b) Explain the architecture of business intelligent with diagram. 05
- Q.10 a) Explain K-mean clustering with suitable example. 08  
 b) Write a note on “Intelligent creation and BI Governance”. 07

**SUBJECT CODE NO: E-241**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Parallel & Distributed Computing**  
**(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 questions from each section.
  - iii) Figures right indicates full marks.
  - iv) Assume Suitable data if necessary.

**SECTION A**

- Q.1 a) Explain Task graph model. 05  
 b) Draw & explain CUDA device memory types. 05
- Q.2 a) Explain following network topologies i) Buses ii) crossbars 08  
 b) Explain concept of data parallelism in detail. 07
- Q.3 a) Explain parallel algorithm models in detail. 08  
 b) What is BlockIdx & ThreadIdx? 07
- Q.4 a) Explain following terms : i) Pipelining Architecture ii) Superscalar Execution 08  
 b) Explain following terms: i) Degree of concurrency ii) Critical path length 07
- Q.5 Explain the term decomposition. Explain all decomposition techniques in detail. 15

**SECTION B**

- Q.6 a) Explain happened before model in detail. 05  
 b) Explain granularity in DSM. 05
- Q.7 a) What are the different design & implementation issues in DSM? 08  
 b) Explain structure of MapReduce program. 07
- Q.8 a) What is distributed computing? Explain characteristics of distributed computing? 08  
 b) Explain Java RMI in detail. 07
- Q.9 a) What is mutual exclusion? 08  
 b) How to set up SSH for Hadoop cluster? 07
- Q.10 a) Explain following terms: i) Vector clocks ii) Direct dependency clocks 08  
 b) Explain the term trashing in detail. 07

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Total No. of Printed Pages:2

**SUBJECT CODE NO: E-242**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(IT) Examination Nov/Dec 2017**  
**Cloud Computing**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i) Question No 1 from Section A and Question No 6 from Section B are Compulsory.
  - ii) From the remaining Questions in Section A and B. Solve any two questions.

**Section – A**

- Q.1 a) Define Cloud Computing. List and Explain Cloud Service models. 05  
b) Explain SoA. 05
- Q.2 a) Explain Parallel Computing and Distributed Computing. 08  
b) Explain key characteristics of Cloud Computing. 07
- Q.3 a) Explain CaaS, BPaaS, MaaS in detail. 08  
b) Explain SOAP and REST. 07
- Q.4 a) Explain virtualization and its types. 08  
b) Explain Pros and Cons of virtualization. 07
- Q.5 **Write Short notes on any three of the following.** 15  
a) Grid computing  
b) Para virtualization  
c) Google App Engine  
d) Client – Server Architecture

**Section – B**

- Q.6 a) Explain big data and its challenges. 05  
b) Explain Big table and Dynamo. 05

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- Q.7 a) What is Map Reduce? Explain its extensions. 07  
b) Explain HDFS and HBase. 08
- Q.8 a) Describe information Security Concerns in Storage. 07  
b) Explain detail about Security Challenges in Cloud. 08
- Q.9 a) Explain Web Services and Location awareness. 07  
b) Define WAP Protocols. 08
- Q.10 Write short notes on any three of the following. 15  
a) Data life cycle  
b) Context aware Services  
c) Mobile Cloud  
d) Data privacy

Total No. of Printed Pages:2

**SUBJECT CODE NO:- E-282**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Principles of Compiler Design**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:08]

Please check whether you have got the right question paper.

- N.B
- 1) Question No.1 & 6 are compulsory
  - 2) Attempt any other two question from each section
  - 3) Assume suitable data if necessary
  - 4) Figure to the right indicate full marks

Section-A

- Q.1 a) Explain Role of lexical analyzer with suitable diagram 05  
b) What is Gross compilation? Compare with boot strapping. 05
- Q.2 a) Explain input buffering in detail? 07  
b) Explain specification of tokens like numbers, identifier's keywords etc. in lexical analyzer. 08
- Q.3 a) Consider the grammar given below 08  
 $E \rightarrow E + T / T$   
 $T \rightarrow T * F / F$   
 $F \rightarrow ( E ) / Td$   
Construct LR parsing table for above grammar, give the moves of LR parser on  
 $id * id + id$   
b) Explain with suitable e.g. the algorithm for NFA to DFA conversion 07
- Q.4 a) Explain LR parsing algorithm with suitable example 08  
b) Explain canonical collection of LR(0) items with suitable example 07
- Q.5 a) Explain how recognize tokens? draw the transition diagram for relational operators & numbers 07  
b) Explain error detection & correction with YACC 08

Section – B

- Q.6 a) Write a short note on three address code 05  
 b) Write short note on type checking & type conversion 05
- Q.7 a) Explain in detail about bottom- up evaluation of S – attributed definitions 08  
 b) Write short note on global data flow analysis 07
- Q.8 a) Discuss the algorithm for elimination of local common sub expression 08  
 b) Write the semantic rules for given production 07  
 $L \rightarrow En$   
 $E \rightarrow E_1 + T$   
 $E \rightarrow T$   
 $T \rightarrow T_1 * f$   
 $T \rightarrow F$   
 $F \rightarrow (E)$   
 $F \rightarrow \text{digit}$   
 Also draw the annotated parse tree for  $3 * 5 + 4n$
- Q.9 a) Explain in detail about bottom up evaluation of L – attributed definition 07  
 b) With suitable example explain basic blocks & flow graphs 08
- Q.10 a) Explain Register allocation & assignments in detail 08  
 b) What is peephole optimization? Discuss some example of program transformation that are 07  
 characteristics of peephole optimization



Total No. of Printed Pages:2

**SUBJECT CODE NO: E-328**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Visual Modeling**  
**(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) Attempt any two questions from the remaining questions in each section
  - iii) Assume suitable data wherever necessary.

**SECTION –A**

- Q.1 Solve any two 10
- a) Explain the principles of modelling.
  - b) Explain complexity of software /System.
  - c) Explain algorithmic & object oriented decomposition. (with diagram)
- Q.2 a) What is UML? Explain the objectives of object oriented modelling. 07
- b) Explain 4+1 view model of system architecture. 08
- Q.3 a) Draw and explain relationship between use cases. 07
- b) Explain how CRC cards are used to create class diagram. 08
- Q.4 a) Explain steps to build sequence diagram with example. 07
- b) Draw and explain communication diagram for appointment system. 08
- Q.5 a) Draw and explain component diagram for environmental control system. 07
- b) Explain Elements, guidelines for creating activity diagram. 08

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**SECTION –B**

- Q.6 Solve any two 10
- a) Explain creational design pattern.
  - b) Explain catalog of design patterns.
  - c) What is design pattern?
- Q.7 a) How do we describe pattern? 07
- b) Explain abstract factory pattern. 08
- Q.8 a) Explain consequences & implementation of decorator design pattern. 07
- b) Explain consequences & implementation of strategy design pattern. 08
- Q.9 a) Explain structural design patterns. 07
- b) Explain behavioural design patterns. 08
- Q.10a) Explain prototype design pattern in detail. 07
- b) Explain command design pattern in detail. 08

Total No. of Printed Pages:02

**SUBJECT CODE NO:- E-381**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT/EE/ETC) Examination Nov/Dec 2017**  
**Elective-I: Advanced Business Application Programming- I**  
**(REVISED)**

**[Time: Three Hours]**

**[Max.Marks:80]**

Please check whether you have got the right question paper.

- N.B
- 1) Question no.1 from section A and Question no.6 from section B, 10 marks each, will be compulsory.
  - 2) From the remaining questions in section A and B students are supposed to solve any two questions from each section, 15 marks each.

**SECTION- A**

- |     |   |          |
|-----|---|----------|
| Q.1 | Solve any five from following   | 10       |
|     | <ol style="list-style-type: none"><li>1) Enlist SAP Services</li><li>2) TCODE</li><li>3) Procurement</li><li>4) Logging on to SAP</li><li>5) HCM</li><li>6) Data Classes in ABAP</li><li>7) Data Dictionary</li></ol>                             |          |
| Q.2 | <ol style="list-style-type: none"><li>a) Explain SAP Netweaver . And also features of SAP Netweaver.</li><li>b) Explain financial management in SAP ERP.</li></ol>  | 08<br>07 |
| Q.3 | <ol style="list-style-type: none"><li>a) Explain SAP Services in details.</li><li>b) Enlist and explain different basic procurement activities.</li></ol>   | 08<br>07 |
| Q.4 | <ol style="list-style-type: none"><li>a) What are the different organizational levels in SAP procurement? Explain in details.</li><li>b) Which are the different terminology used in Vendor master and also explain vendor master data?</li></ol> | 08<br>07 |
| Q.5 | <ol style="list-style-type: none"><li>a) Explain modularization using Global Classes with example.</li><li>b) What is the difference between database tables and structures in SAP? Do structures have Primary Keys in SAP?</li></ol>             | 08<br>07 |

## SECTION-B

- Q.6 Solve any five from following 10
- 1) Enlist events used in classical report
  - 2) Authorization checks
  - 3) Open SQL
  - 4) Types of Table Fields
  - 5) Enlist types of tables.
  - 6) Views
  - 7) Enlist aggregated objects of ABAP Directory
- Q.7 a) Explain different data modeling Components? And also explain how to extract a single database record with example. 08
- b) Write an ABAP program for generating classical report for single table. 07
- Q.8 a) Explain program calls and memory management in SAP ABAP. 08
- b) Write a step to create Domains in ABAP Dictionary. 07
- Q.9 a) Write a step to create Domains and Data Elements in ABAP Dictionary. 08
- b) Explain what is the necessity to implement structures. And also write an ABAP program to implement. 07
- Q.10 a) What do you mean by table Conversion? And also explain the process of table conversion. 08
- b) What is the search help? Also explain different types of search helps? And also write how to implement search helps. 07

Total No. of Printed Pages:02

**SUBJECT CODE NO:- E-388**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Elective-I: Artificial Intelligence**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- 1) Question no.1 and 6 are compulsory.
  - 2) Attempt any two questions from remaining from each section.
  - 3) Assume suitable data, if necessary.

**SECTION-A**

- |     |  |    |
|-----|--|----|
| Q.1 | Answer any two   | 10 |
|     | a) Explain AI problems.                                  |    |
|     | b) Explain state space search.                           |    |
|     | c) Explain AI Intelligent Agents.                        |    |
| Q.2 | a) Explain Depth first search algorithm with advantages. | 08 |
|     | b) Explain Simulated Annealing.                          | 07 |
| Q.3 | a) Write & explain AO* algorithm.                        | 08 |
|     | b) Explain forward and backward reasoning.               | 07 |
| Q.4 | a) Explain TMS with example.                             | 08 |
|     | b) Explain what are future scope of AI?                  | 07 |
| Q.5 | a) Translate following facts in predicate logic          | 08 |
|     | 1) John likes all kinds of foods.                        |    |
|     | 2) Apples are food.                                      |    |
|     | 3) Bill eats peanuts and is still alive.                 |    |
|     | 4) She eats everything Bill eats.                        |    |
|     | b) Explain semantic net with example.                    | 07 |

SECTION-B

- Q.6 Answer any two 10
- a) Explain steps in NLP.
  - b) Explain learning from example as Induction.
  - c) Explain advantages of Expert System.
- Q.7 a) Explain planning actions of robot arm that can manipulate the blocks. 08
- b) Explain min-max search procedure. 07
- Q.8 a) Explain Expert system with neat diagram. 08
- b) Explain Syntactic processing in NLP. 07
- Q.9 Explain different learning techniques. 15
- Q.10 a) Explain Alpha-Beta pruning with example. 08
- b) Explain non-linear planning using constraint. 07

Total No. of Printed Pages:02

**SUBJECT CODE NO:- E-389**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Elective-I: Cloud Computing**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- Please check whether you have got the right question paper.
- 1) Question No.1 and Question No. 6 are compulsory.
  - 2) Attempt any two Questions from each Section from remaining.
  - 3) Figures to the right indicate full marks.

Section A

- Q.1 Write short notes on any two. 10
- a) Network virtualization.
  - b) Communication – as – a – service
  - c) Cloud computing Reference architecture by IBM.
- Q.2 a) Depict software – as – a- Service. Mention out Advantages, Drawbacks and Providers of SAAS. 08
- b) Define virtualization. Brief on the types of virtualization. 07
- Q.3 a) Explain in detail about Amazon EC2 along with its associated services provided by Amazon. 08
- b) Describe client-server architecture in detail. 07
- Q.4 a) What is Web-service? Explain in detail about SOAP Web-Service. 08
- b) What is SOA? Explain in detail. 07
- Q.5 a) Explain in detail about PAAS. Also Brief on the benefits and drawbacks of PAAS. 08
- b) Explain Google App Engine in detail. 07

## Section B

- Q.6 Write short notes on any two. 10
- a) Sqoop
  - b) OOOie
  - c) Location Awareness.
- Q.7 a) Explain in detail about Mobile interoperability to access Mobile web services. 08
- b) Brief on Micro electro mechanical systems in detail. 07
- Q.8 a) Explain the Cloud File Systems in detail. 08
- b) Explain in detail about Infrastructure security at Application level. 07
- Q.9 a) Explain Various aspects of data security in cloud. 08
- b) What are the key privacy concerns in cloud. 07
- Q.10 a) Derive the parallel efficiency of Map-Reduce. 08
- b) Define Big data. Mention and brief on Characteristics of big data. 07



Total No. of Printed Pages:1

**SUBJECT CODE NO:- E-390**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE) Examination Nov/Dec 2017**  
**Elective-I: Multicore Computing**  
**(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 Q.No.2 to Q.No.5 and Q.No.7 to Q.No.10 of each section.

**SECTION – A**

- |     |  |    |
|-----|--|----|
| Q.1 | a) Differentiate between multiprogramming and multiprocessing.             | 05 |
|     | b) What is SMP scheduling? Explain its pros and cons.                      | 05 |
| Q.2 | a) Explain multi kernel architecture with suitable diagram.                | 08 |
|     | b) Explain parallel programming with suitable example.                     | 07 |
| Q.3 | a) Describe single, dual and quad core processor with suitable diagram.    | 08 |
|     | b) What are harsh realities of parallelization? How they can be addressed? | 07 |
| Q.4 | a) Explain memory latency and band width problem for parallel processing.  | 08 |
|     | b) What are the challenges of multicore programming? Explain.              | 07 |
| Q.5 | a) Describe symmetric and asymmetric multiprocessing with example.         | 08 |
|     | b) Explain multicore architecture. Discuss implementation issues.          | 07 |

**SECTION – B**

- |      |   |    |
|------|---|----|
| Q.6  | a) What are possible overheads in parallel programming? How to estimate each?                                       | 05 |
|      | b) Explain the various decomposition techniques.  | 05 |
| Q.7  | a) Explain Linux O.S. architecture supporting multicore architecture.   | 07 |
|      | b) Discuss principles of parallel algorithm design.   | 08 |
| Q.8  | a) Discuss the effect of granularity on performance and scalability of parallel systems.                            | 08 |
|      | b) What are the mapping techniques for load balancing?  | 07 |
| Q.9  | a) Explain the role of operating system in multi-core programming.  | 07 |
|      | b) What is asymptotic analysis of parallel programming?   | 08 |
| Q.10 | a) Explain the task dependency graph and its significance in parallel algorithm design with an appropriate example. | 08 |
|      | b) Explain the architecture of windows with multi kernel multi core architecture.                                   | 07 |

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**SUBJECT CODE NO:- E-391**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(IT) Examination Nov/Dec 2017**  
**Elective-I: Artificial Neural Network & Fuzzy Logic**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- 1) Q.1 & Q.6 are compulsory.
  - 2) Attempt any two questions from the remaining questions from each section.
  - 3) Assume data if necessary & state it clearly.

Section A

- Q.1 Attempt any two of following. 10
- a) Define soft computing. Differentiate between soft computing and hard computing.
  - b) How ANN is used for pattern recognition task? Explain.
  - c) Explain single layer & multilayer feedforward neural n/w.
- Q.2 a) What is a linearly separable and linearly-non separable problem? Explain it with example. 08
- b) Realize the working of AND gate using MP neuron. 07
- Q.3 a) Explain perceptron learning algorithm for pattern classification with example. 07
- b) Explain Back propagation learning algorithm for FFNN. 08
- Q.4 a) Train a hetero-associative memory n/w using HEBB rule to store input row vector 08  
 $S = (S_1, S_2, S_3, S_4)$  to the output row vector  $t = (t_1, t_2)$  The vector pairs are given in table:

$\rightarrow$ Input Target	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	t <sub>1</sub>	t <sub>2</sub>
1 <sup>st</sup>	1	0	1	0	1	0
2 <sup>nd</sup>	1	0	0	1	1	0

- b) Explain discrete & continuous bidirectional associative memory. 07

Q.5 Write short note on (any three)

15

- 1) Hopfield Network
- 2) Auto association & hetero-association
- 3) Learning rate parameter
- 4) Error correction & Gradient Decent rule
- 5) Applications of ANN.

### Section B

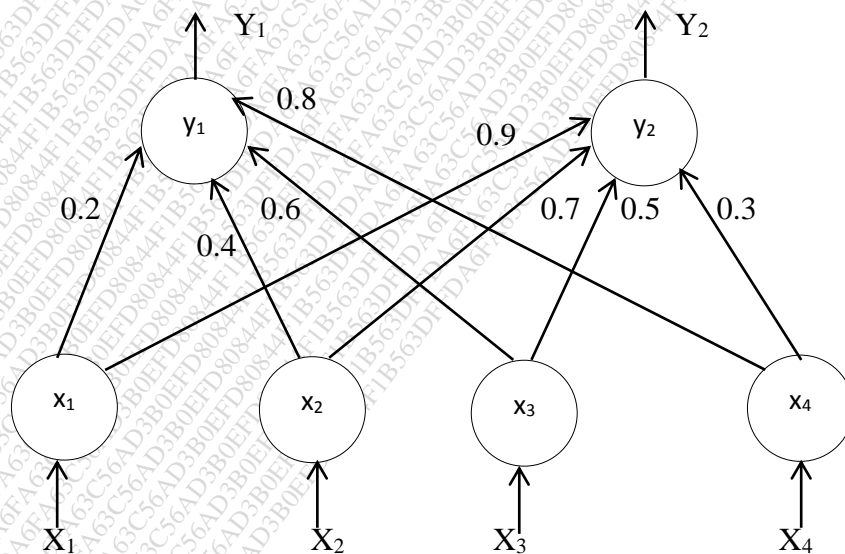
Q.6 Answer the following (Any two)

10

- a) Distinguish between numerical variable and linguistic variable.
- b) Describe properties of fuzzy set.
- c) What are imprecise queries? Explain with examples.

Q.7 a) With architecture explain the training algorithm used in Kohonen self-organizing feature map. 07

- b) Consider a Kohonen self-organizing net with two cluster units and four input units. The weight vectors for the cluster units are given by  $W_1 = [0.2 \ 0.4 \ 0.6 \ 0.8]$ ,  $W_2 = [0.9 \ 0.7 \ 0.5 \ 0.3]$  use the square of the Euclidean distance to find the winning cluster unit for the input pattern  $[0 \ 0 \ 1 \ 1]$  using a learning rate of 0.5 find the new weights for the winning unit. 08



Q.8 a) Two fuzzy relations are given by

07

$$\underline{R} = \begin{matrix} & y_1 & y_2 \\ x_1 & [0.6 & 0.3] \\ x_2 & [0.2 & 0.9] \end{matrix} \quad \& \quad \underline{S} = \begin{matrix} & z_1 & z_2 & z_3 \\ y_1 & [1 & 0.5 & 0.3] \\ y_2 & [0.8 & 0.4 & 0.7] \end{matrix}$$

Find fuzzy relation  $\underline{T}$  using max-min composition.

b) Consider two fuzzy sets

08

$$A = \left\{ \frac{1}{1.0} + \frac{0.75}{1.5} + \frac{0.3}{2.0} + \frac{0.15}{2.5} + \frac{0}{3} \right\} \&$$

$$B = \left\{ \frac{1}{1.0} + \frac{0.6}{1.5} + \frac{0.2}{2.0} + \frac{0.1}{2.5} + \frac{0}{3} \right\}$$

Find a)  $A \cup B$       b)  $A \cap B$       c)  $\bar{B}$       d)  $\overline{A \cup B}$

Q.9 a) Explain any one application of fuzzy control.

07

b) Explain design theory for fuzzy relation databases.

08

Q.10 Write short notes (Any Three)

15

- i) Genetic Algorithm
- ii) Crisp Set Vs Fuzzy Set
- iii) Learning vector quantization
- iv) Fuzzy object oriented databases
- v) Pattern clustering.

**SUBJECT CODE NO:- E-392**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(IT) Examination Nov/Dec 2017**  
**Elective-I: Compiler Construction**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i) Question no.1 & 6 are compulsory.
  - ii) Attempt any other two questions from each section.
  - iii) Assume suitable data if necessary.

**Section-A**

- Q.1 a) What is compiler? State & Explain various phases of compiler in details. 05
- b) What is cross compiler? Explain Bootstrapping compilers. 05
- Q.2 a) With example, explain implementation of shift Reduce parser 07
- b) Explain role of lexical analyzer. Also explain about patterns, tokens and lexemes with suitable example. 08
- Q.3 a) Consider the following grammar 07
- $S \rightarrow a B|bA \quad A \rightarrow a |a s|bAA \quad B \rightarrow b |b S| aBB$
- Derive the string aaabbabbba using above grammar by left most derivation & right most derivation. Also draw parse tree for both
- b) What is top-down parsing? What are the problem with top down parsing 08
- Q.4 a) Give SDT Scheme for desk calculator. Illustrate the scheme for the i/p “232 + 23 \* 5” along with it’s parse tree. 07
- b) Explain difference between quadruples, triples & Indirect triples. 08
- Q.5 Write short note on (any three) 15
- a) YACC Utility
  - b) FIRST & FOLLOW with example
  - c) Parse tree & Syntax tree
  - d) SDT Schemes

## Section-B

- Q.6 a) Explain Machine independent optimization with suitable example. 05  
b) Define symbol table. What type of information is stored in symbol table 05
- Q.7 a) Explain Machine independent optimization technique with suitable example. 07  
b) Explain Run time storage organization in detail. 08
- Q.8 a) Explain the characteristics of peephole optimization. 07  
b) Explain construction of DAG 08
- Q.9 a) Explain various problem in code generation. 07  
b) Explain Register allocation and assignments. 08
- Q.10 Write short note on (any three) 15  
a) Self-organizing lists  
b) Object programs  
c) Application of DAG  
d) Global Data flow Analysis

**SUBJECT CODE NO: E-393**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(IT) Examination Nov/Dec 2017**  
**Elective-I**  
**Object Oriented Analysis & Modeling**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

- N.B Please check whether you have got the right question paper.
- Question No.1 and 6 are compulsory from each section.
  - Attempt any 2 questions from remaining question in each section.
  - Assume suitable data, wherever necessary.

**Section A**

- Q.1 Attempt any two.** 10
- Explain attributes of complex system.
  - Define software complexity.
  - Define algorithmic & object-oriented decomposition.
- Q.2** 08
- Explain relationship among objects and classes.
  - Draw and explain object diagram for patient appointment system.
- Q.3** 08
- Draw & explain class diagram for library management system.
  - Explain quality assurance & its metrics.
- Q.4** 07
- Explain domain specific issues.
  - Draw & explain use case diagram for appointment system.
- Q.5** 07
- Explain management, planning, staffing.
  - Explain benefits and risks of OOD

**Section B**

- Q.6 Attempt any two.** 10
- What is design pattern?
  - Explain catalog of design patterns.
  - How design patterns solve design problems.
- Q.7** 07
- Explain consequences, implementation of prototypes design pattern.
  - Explain abstract factory in detail.
- Q.8** 08
- Explain structural design pattern.
  - Explain consequences, implementation of proxy design pattern.
- Q.9** 08
- Explain the problems of lexis design.
  - Explain behavioral design pattern.
- Q.10** 08
- Explain command design pattern in detail.
  - Explain strategy design pattern in detail.

**SUBJECT CODE NO:- E-394**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT/ETC/EE) Examination Nov/Dec 2017**  
**Elective-I: Inter Connection Networks**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

**Please check whether you have got the right question paper.**  
N.B Attempt any two questions from each section.

**Section A**

- Q.1 A) What is OSI Model? Explain with figure. 10  
B) What is IP Address? Explain Public & Private IP Address. 10
- Q.2 A) What is Router? Explain About Access layer, Distribution layer & Core layer Router. 10  
B) What is Networking? Explain the types of Network. 10
- Q.3 A) Write about Following Protocols with Port No. [any five] 10
- TELNET
  - SMTP
  - HTTP
  - POP
  - ICMP
  - TFTP
- B) What is Administrative Distance? 10

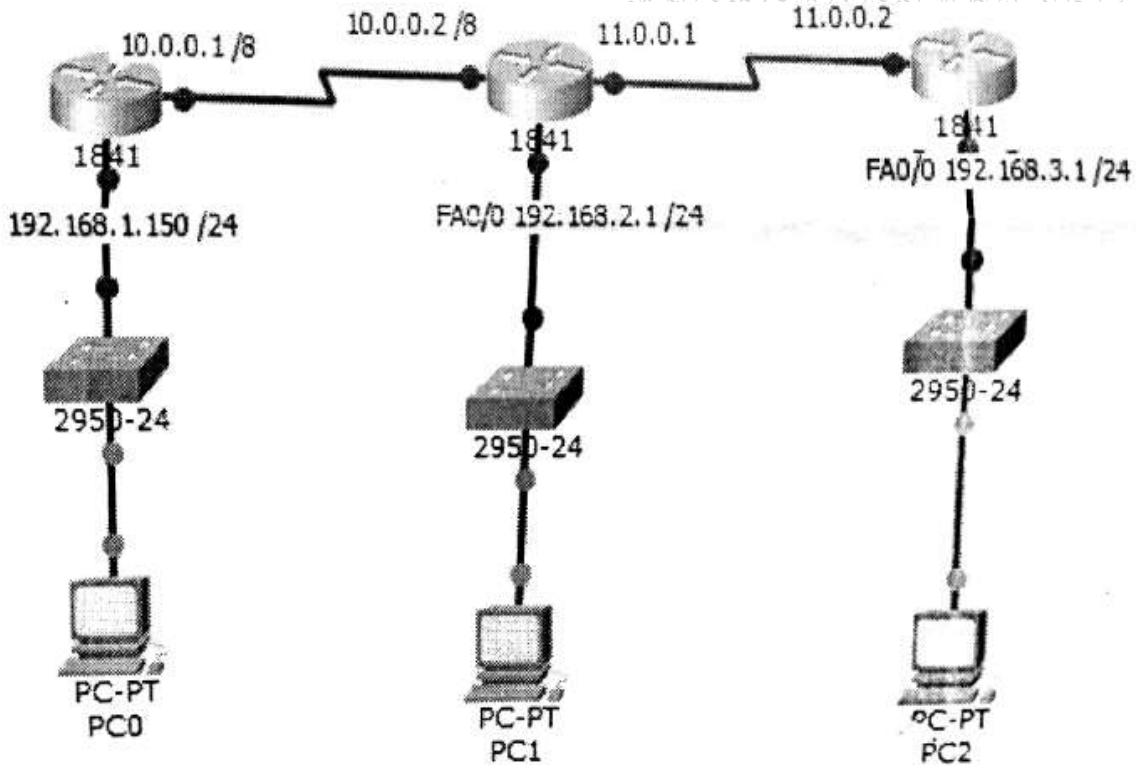
**Section B**

- Q.4 A) Write sub network No. Valid host & Broadcast address for following [Solve any 2] 10
- 192.168.1.0 / 27
  - 172.16.0.0 / 24
  - 171.16.0.0 / 19
- B) Write short note on.(Any two) 10
- I. What is Bandwidth of CAT5 cable?
  - II. What is loopback address?
  - III. What is Default Gateway?



- Q.5 A) What is dynamic routing? Explain RIP-VZ protocol. 10  
 B) What is Subnet Mask? What is default subnet mask for class A, B & C? 10

- Q.6 A) What is VLAN? What is importance of VLAN? 10  
 B) Configure EIGRP Routing Following Diagram. 10



Total No. of Printed Pages:02

**SUBJECT CODE NO:E-395**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT) Examination Nov/Dec 2017**  
**Elective-I**  
**Internet of Things**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

N.B Please check whether you have got the right question paper.

- 1) Q.1 & Q.6 are compulsory.
- 2) Solve any two questions from remaining in each section.

**Section A**

- |     |  |    |
|-----|--|----|
| Q.1 | a) What effect will the IoT have on our daily lives? Explain with any one example of smart Device. | 05 |
|     | b) Explain an emerging industrial structure of IoT.  | 05 |
| Q.2 | a) Explain building block of IoT.  | 08 |
|     | b) Explain relation between IoT & WSN.   | 07 |
| Q.3 | a) Explain TCP/IP protocol stack Vs. IoT protocol stacks.  | 08 |
|     | b) Explain cloud computing in IoT with example.  | 07 |
| Q.4 | a) Explain Data Visualization & its importance in IoT.   | 08 |
|     | b) Explain zigbee protocol architecture.   | 07 |
| Q.5 | Write short note (any three)   | 15 |
|     | a) Opportunities for IoT   |    |
|     | b) RFID  |    |
|     | c) COAP  |    |
|     | d) MQTT  |    |
|     | e) Vision of IoT   |    |

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## Section B

- Q.6 a) Explain Web of Things in detail with example. 05  
b) Explain platform middleware for WoT. 05
- Q.7 a) Explain different issues in IoT security and how it is overcome? 08  
b) Explain device security & privacy of IoT cloud. 07
- Q.8 a) Explain in detail with block diagram application of IoT in Smart Home. 08  
b) Explain IoT application & deployment scenarios in different domains. 07
- Q.9 a) What is WoT portals and business intelligence? 07  
b) Justify when to use WoT and when to use IoT. 08
- Q.10 Write short note (any three) 15  
a) Wearable with example.  
b) Cloud of Things  
c) Role of IoT for increased autonomy  
d) Two pillars of the web  
e) Need of IoT security.

Total No. of Printed Pages:2

**SUBJECT CODE NO: E-396**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(CSE/IT/ETC/EE) Examination Nov/Dec 2017**  
**Elective-I: Learning Management System**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
1. Q.No.1 & Q.No.6 are compulsory.
  2. Attempt any two questions from section A and section B from remaining questions.

**Section A**

- |     |  |    |
|-----|--|----|
| Q.1 | Attempt <u>any one</u> question.   | 10 |
|     | a) Explain the various phases of ADDIE Model. What are the deliverables of each phase? |    |
|     | b) Explain LMS operation in detail.  |    |
|     | c) Compare LCMS and CrMs. Which is better and why?                                     |    |
| Q.2 | a) What are the six principles of adult learning?                                      | 07 |
|     | b) Explain functionalities of LMS in detail.   | 08 |
| Q.3 | a) What is GDTS? Explain its characteristics.  | 07 |
|     | b) What are the advantages of vendor hosted platform.                                  | 08 |
| Q.4 | a) Explain two types of e-learning.  | 07 |
|     | b) Write short note on VLE & mobile LMS.   | 08 |
| Q.5 | a) Explain how digital contents are developed? Give examples of digital contents.      | 07 |
|     | b) Explain offline content provisioning and player capabilities.                       | 08 |

## Section B

- Q.6 Attempt any one question. 10
- a) Explain the usefulness of knowledge management feature in LMS.
  - b) Explain Registration, Enrollment functions and workflows in LMS.
  - c) What features of LMS can be utilized on social media for learning?
- Q.7
- a) Explain system access & security in LMS. 07
  - b) What is virtual immersive environment? How Moodle is applied to virtual world? 08
- Q.8
- a) How to implement search based learning features in LMS? List its advantages. 07
  - b) Explain the requirements of Moodle LMS 08
- Q.9
- a) Explain extended enterprise learning. 07
  - b) How LMS is useful to universities? List popular LMS. 08
- Q.10
- a) What are the different administrative tasks that can be performed in Moodle? 07
  - b) What is Gamification? Explain Gamification or learning and its features. 08

Total No. of Printed Pages:02

**SUBJECT CODE NO: E-283**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E.(IT) Examination Nov/Dec 2017**  
**Geographical Information System**  
**(REVISED)**

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
- i. Figures to the right indicate full marks.
  - ii. Q.No.1 & Q.No.6 from section A & B are compulsory, solve any two questions from each section remaining.

**SECTION-A**

- Q.1 Explain: 10
- i) Components of GIS
  - ii) Sources of spatial data.
- Q.2 a) Explain in detail spatial data modeling. 08  
b) Discuss the steps involved in surface modeling. 07
- Q.3 a) What are third and fourth dimensions in GIS? How its modeling is done? 08  
b) What is data editing in GIS? Why it is important. Explain. 07
- Q.4 a) Explain GIS database application with suitable example. 08  
b) With a suitable diagram explain web GIS. 07
- Q.5 Write short notes on the following (any three) 15
- i) Thematic characters
  - ii) Computer words
  - iii) Methods of data input
  - iv) Integrated database in GIS

**SECTION-B**

- Q.6 Explain how Length, perimeter, and areas of geographical areas are measured in GIS. 10
- Q.7 a) Explain : 08
- i) Reclassification
  - ii) Spatial Interpolation
- b) Explain the concept of buffering and neighborhood function with suitable example. 07
- Q.8 a) With suitable example explain analytical modeling in GIS. 07  
b) How modeling of Human Processes is done in GIS? Explain 08

2017

- Q.9 a) Explain spatial multimedia.  
b) With suitable example explain map overlay.

07  
08

Q.10 Write short note on the following (any three)

- i) Elements of remote sensing
- ii) Working of remote sensing
- iii) Applications of remote sensing.
- iv) Data analysis in GIS

15