Total No. of Printed Pages:1

SUBJECT CODE NO:- K-19
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (CSE/IT) Examination Oct/Nov 2016
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.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)	What are threats, attacks & attacker enlist types of attacks	05
Q.2	a)	How do you analyse security threads of academic organisation. Also explain what are issues need to be consider while analysing the same.	08
	b)	Why do we need network security model? Explain network security model.	07
Q.3	a)	Explain access control mechanism with block diagram.	08
	b)	Explain role based authentication & rule based authentication.	07
Q.4	a)	What is symmetric key cryptography and asymmetric key cryptography explain with suitable diagram.	08
	b)	Explain AES algorithm.	07
Q.5	a)	What is role of fire walls in network security? Explain types of firewalls & its functionalities.	08
	b)	Explain any one mechanism of Steganography. How does it help to secure your information?	07

SECTION B

Q.6	a)	What did you understand from http: & https:? also explain how SSL works.	05
	b)	Define TLS and TLS record protocol. Also explain TLS handshake.	05
Q.7	a)	What are SET requirements? Also explain how SET transaction taxes place?	08
	b)	How does WPA2 is different from WPA & WEP? Explain 802 II i series standards in brief.	07
Q.8	a)	What are various threats against cellular networks? Also explain security in GSM & 3G in brief.	08
	b)	Which are security services need to be incorporated in Email? Explain PGP protocol	07
Q.9	a)	Explain incident response policy, plan and procedure.	08
	b)	Write a short note on Information Technology Act 2000.	07
Q.10	a)	What is cyber forensics? Explain procedure of cyber forensics.	08
	b)	How do you know something wrong explain various observations when attack occurs?	07

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Total No. of Printed Pages:1

SUBJECT CODE NO:- K-44
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (CSE/IT) Examination Oct/Nov 2016
Mobile Computing (CSE-IT)
(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 in each section.
iii) Assume suitable data if necessary.

Section A

Q.1	Solve any two		10
	i)	Explain windows operating system.	
	ii)	What are the applications of wireless networks?	
	iii)	Explain mobile computing fundamental challenges.	
Q.2	a)	Compare android OS with black berry OS.	07
	b)	Explain inter BS handoff in detail.	08
Q.3	a)	Explain in detail architecture of GSM network.	08
	b)	Explain link transfer in detail.	07
Q.4	a)	Explain multiple access and channel sharing schemes.	08
	b)	Explain TDMA with its advantages and disadvantages.	07
Q.5	a)	What are the advantages and disadvantages of cellular system?	08
	b)	Explain in detail 4G.	07

Section B

Q.6	Solve any two		10
	i)	Explain WAP gateway	
	ii)	Explain agent advertisement message	
	iii)	Explain XML	
Q.7	a)	Explain detail GPRS architecture and services.	08
	b)	What are the goals and requirements of mobile IP?	07
Q.8	a)	How does tunnelling & encapsulation is useful in mobile network?	08
	b)	What advantages does the use of IPV6 offer for mobility?	07
Q.9	a)	Explain phone. Com extensions.	08
	b)	Explain functions of long library of WML script.	07
Q.10	a)	Explain writing and formatting text in WML.	07
	b)	Explain how to create a table in WML with example.	08

2016

Total No. of Printed Pages:3

SUBJECT CODE NO:- K-75

FACULTY OF ENGINEERING AND TECHNOLOGY

B.E. (CSE) Examination Oct/Nov 2016

Soft Computing

(Revised)

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

Please check whether you have got the right question paper.

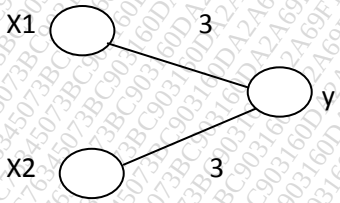
N.B i) Question No.1 and Q.No.6 are compulsory.
ii) Attempt any two questions from each section from remaining.
iii) Assume data if necessary and state it clearly.

Section A

Q.1 Answer the following. (Any Two) 10

a) Elaborate any one application where you will prefer biological neural network over artificial neural network and why?

b) Generate OR function using MP neuron



e) Explain single layer and multilayered Feed forward neural network.

Q.2 a) Explain different topologies used in ANN. 08

b) Describe ANN basic learning laws; differentiate supervised and unsupervised learning laws. 07

Q.3 a) What is linearly separable Problems? How to solve X-OR problem. 08

b) Explain Back Propagation learning algorithm for FFNN. 07

Q.4 a) Train a hetero associative memory network using outer-product rule to store i/p row vector $S=(S_1, S_2, S_3, S_4)$ to the output row vector $t=(t_1, t_2)$ The vector pairs are given in table. 08

Input targets	S_1	S_2	S_3	S_4	t_1	t_2
1	1	0	1	0	1	0
2	1	0	0	1	1	0
3	1	1	0	0	0	1
4	0	0	1	1	0	1

Q.4 b) Explain FBNN architecture. Give pattern recognition tasks solve by FBNN. 07

Q.5 Write short notes (Any three) 15

a) Hard computing Vs Soft computing.

b) Learning rate parameter.

c) Bi-directional associative memory.

d) Perceptron learning law for pattern classification.

e) Soft computing technique and applications.

Section B

Q.6 Answer the following (Any two) 10

a) Explain competitive neural network with its applications.
b) Differentiate between fuzzy set and crisp set.
c) Explain the concept of genetic Algorithm.

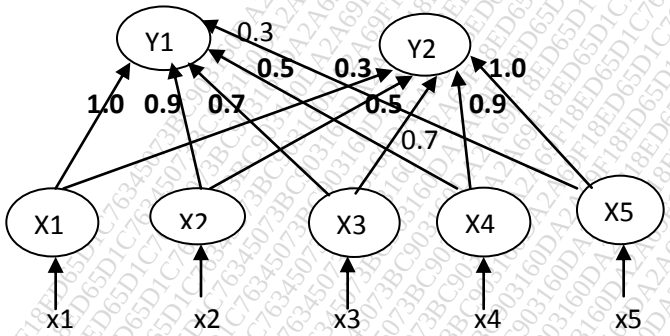
Q.7 a) Explain learning vector quantization in detail. 05

b) Consider a kohonen self-organizing net with two cluster units and five input units. The weight vector for the cluster units are given by 10

W1=[1.0, 0.9, 0.7, 0.5, 0.3]

W2=[0.3, 0.5, 0.7, 0.9, 1.0]

Use Euclidean distance to find the winning cluster unit for the input pattern
X=[0.0 0.5 1.0 0.5 0.0] using a learning rate of 0.25, find the new weights for the winning unit.



Q.8 a) Two fuzzy relations are given by 08

$$\tilde{R} = \begin{array}{c} \\ x_1 \\ x_2 \end{array} \begin{array}{c} \begin{array}{cc} y_1 & y_2 \end{array} \\ \begin{bmatrix} 0.6 & 0.3 \\ 0.2 & 0.9 \end{bmatrix} \end{array}$$

$$\tilde{S} = \begin{array}{c} \\ y_1 \\ y_2 \end{array} \begin{array}{c} \begin{array}{ccc} z_1 & z_2 & z_3 \end{array} \\ \begin{bmatrix} 1 & 0.5 & 0.3 \\ 0.8 & 0.4 & 0.7 \end{bmatrix} \end{array}$$

Obtain fuzzy relation $\tilde{T}$ using
1)Max-min composition
2)Max-Product composition.

b) Explain fuzzification and defuzzification to crisp set in detail with example. 07

Q.9 a) Explain different operations in fuzzy relational data model with example. 08

b) Explain design theory for fuzzy relational databases. 07

Q.3 Write short notes (Any three) 15

a) Properties of membership functions.
b) Pattern clustering
c) Fuzzy if –Then Rules.
d) Self-organizing feature map.
e) Properties of fuzzy logic.

Total No. of Printed Pages:2

SUBJECT CODE NO:- K-76
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (IT) Examination Oct/Nov 2016
Big Data Analytics
(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.

Section A

Q.1 Solve any two 10
A. Explain different approaches to analyze big data.
B. Explain different big data applications with examples.
C. What is Data mining? Explain typical algorithms used in data mining.

Q.2 A. Explain the foundational elements of big data in detail. 08
B. Explain different sources of structured data with examples. 07

Q.3 A. Explain the role of virtualization in big data. 08
B. Explain following types of virtualization in detail: 07
a) Sever virtualization
b) Application virtualization

Q.4 A. Explain following kinds of structured analysis for big data: 08
a) Advanced Analytics
b) Operationalized Analytics
B. Explain different types of unstructured data with examples. 07

Q.5 A. Explain following layers of the big data stack in detail: 08
a) L4: Analytical data warehouses
b) L5: Introduction to big data analytics
B. What is NoQSL? Explain following kinds of NoSQL database with examples: 07
a) Key value stores,
b) Document stores.

Section B

Q.6 Solve any two. 10

A. Why can't we use databases with lots of disks to do large-scale batch analysis? Why is Map Reduce needed? Justify your answer.

B. What is Hadoop? Explain the HDFS Architecture in detail.

C. Explain following terms in detail:
   a) Pig: Execution Types
   b) Running Pig Programs

Q.7 A. Explain how the data is analyzed using Hadoop? Give an example. 08

B. Explain the working of Map Reduce data flow with multiple reduce tasks. Give an example. 07

Q.8 A. Explain any ten general purpose HDFS shell commands with examples. 08

B. Explain the use of distcp in HDFS clusters. 07

Q.9 A. Discuss the Case study: Hadoop and Hive at Facebook. 08

B. Explain following terms in detail: 07
   a) HiveQL,
   b) Hive Tables

Q.10 A. What is the use of combiner function in Map Reduce? Give an example. 08

B. Write a short note on Basics of HBase and Zookeeper. 07

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SUBJECT CODE NO:- K-125
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (CSE/IT) Examination Oct/Nov 2016
Green IT (CSE/IT) [Elective-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 compulsary.
ii)Solve any two questions from Q.No.2 to Q.No.5 for section A and from Q.No.7 to Q. No.10 for section B.
iii) Draw appropriate diagrams wherever necessary.

Section A

Q.1 a) Explain the following processor power-states: 04
i) c-states
ii) P-states.
b) Explain the following software sustainability metrics. 06
i) Dependability.
ii) Efficiency.
iii) Supportability.

Q.2 a) Explain the typical steps followed during design of a device. 07
b) Mention and explain the various strategies to reduce power consumption by laptop processors. 08

Q.3 a) Write a note on green networking and communication. 07
b) What is meant by green washing? Give two examples. 08

Q.4 a) Explain how pre-fetching and caching techniques can save energy. 07
b) Illustrate how context awareness leads to smarter devices with example. 08

Q.5 a) Define Green Data Center. Mention the energy challenges associated with Green Data Center. 08
b) Write a note on “RAID with power-Awareness”. 07

Section B

Q.6 a) Explain any four cloud computing characteristics in brief. 04
b) Mention the nine principles used in Green engineering as guidance in the design or redesign of products. 06

Q.7 a) What are the contribution from the EMAN working group in the field of energy management? 08
b) Explain the Green cloud Architecture in brief. 07

Q.8 a) Explain the following terms in brief: 07
i) Public clouds ii) private clouds iii) Hybrid clouds.
b) Explain the five green and profit oriented policies employed for scheduling by green Broker. 08

Q.9 a) Explain the various guidelines for making an enterprise functional with green. 07
b) What are the major elements of value chain and how does ‘closing the loop’ relate to the value chain? 08

Q.10 a) Write note on Eco-industrial parks and information system. 07
b) Explain how the usage of RFID technology can green the system. 08

Total No. of Printed Pages:1

SUBJECT CODE NO:- K-126
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (CSE/IT) Examination Oct/Nov 2016
Agile Methodology (CSE/IT) [Elective-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 6 are compulsory.
ii) Attempt any two questions from the remaining in each section.

Section A

Q.1 Solve any two questions.
a) Differentiate between waterfall model and agile. 05
b) Explain product backlog and sprint backlog. 05
c) Explain the importance of regression testing in agile. 05

Q.2 a) Explain exploratory testing. 08
b) Explain the impact of agile life cycle on agile testing. 07

Q.3 a) Explain following SCRUM roles 08
i) Product owner
ii) Scrum master
iii) Scrum team
b) Define product backlog. Why product backlog grooming and refinement is necessary. 07

Q.4 a) Explain extreme programming. 08
b) Explain in detail feature driven development. 07

Q.5 a) 'SCRUM is Incremental & Iterative'. Justify this statement. 08
b) Explain agile testing quadrant with suitable diagram. 07

Section B

Q.6 Solve any two questions.
a) Explain any five refactoring techniques. 05
b) What is the role of design principles in agile? Explain. 05
c) How agility is balanced with discipline. 05

Q.7 a) Explain LisKov substitution design principle with suitable example. 08
b) Explain single responsibility & open closed principle with suitable example. 07

Q.8 a) Explain automated build tools. 08
b) Explain relationship between continuous integration and version control. 07

Q.9 a) Explain the roles in an agile project. 08
b) Write a note on agile projects on cloud. 07

Q.10 a) Explain dependency inversion principle with suitable examples. 08
b) Explain the challenges in agile. 07

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Total No. of Printed Pages:1

SUBJECT CODE NO:- K-189
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE/ IT) Examination Oct/Nov 2016
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. Solve any two questions from the remaining ones in each section.
ii) Assume suitable data it necessary and state it clearly.

Section A

Q.1	a)	What is the KDD process?	04
	b)	What is a Star Schema?	03
	c)	What is OLAP, MOLAP, and HOLAP?	03
Q.2	a)	With a neat diagram, describe the various components in a typical Multi-tiered Data Warehouse Architecture.	08
	b)	What are the typical OLAP operations that can be performed on a data cube?	07
Q.3	a)	What are the various steps in Data Mining if seen from Business Intelligence view?	08
	b)	What are the components of KDD process seen from machine learning and statistics communities?	07
Q.4	a)	Describe three different ways in which data objects can be represented?	08
	b)	What are the various measures for finding the distance between two objects?	07
Q.5	a)	What are the important steps in data warehouse implementation?	07
	b)	Define the Terms in brief-Cuboid, OLTP, OLAP, ETL.	08

Section-B

Q.6	a)	What is market-Basket Analysis?	03
	b)	What is dissimilarity matrix?	03
	c)	What are the metrics of classifier performance?	04
Q.7	a)	What is the process of mining frequent patterns? Assume a suitable database of at a least 5 tuples, illustrate the working of Apriority algorithm. Generate the Association Rules using the confidence of 85%.	10
	b)	Explain the process of classification using two phases- i) Learning and ii) testing (classification)	05
Q.8	a)	How the data is clustered using the k-medoids algorithm?	08
	b)	What are the typical requirements of clustering?	07
Q.9	a)	What is the method of classifying the data using Bayes theorem based on Probability?	08
	b)	What is the principle of decision Tree classifier (ID3)?	07
Q.10	a)	How does dashboards help in improving the Business?	08
	b)	What is the process of intelligence creation and use in BI?	07

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SUBJECT CODE NO:- K-337
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination Oct/Nov 2016
Elective-I: Cloud 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 the remaining in each section.

Section A

Q.1 Solve any two questions
- i) Explain in detail monitoring- as-a- service. 05
- ii) Write short note on server virtualization. 05
- iii) Explain in detail cluster computing. 05

Q.2
- a) Explain in detail infrastructure-as-a-service. Enlist and brief about various advantages and disadvantages. 08
- b) Define VMM. Explain various types of virtualization in detail 07

Q.3
- a) Mention in detail about various services provided by Amazon web services. 08
- b) What is storage virtualization? Enlist pitfalls of virtualization. 07

Q.4
- a) What is cloud computing? Explain in detail cloud computing reference architecture by IBM. 08
- b) Explain Identity-as-a-services in detail. 07

Q.5
- a) Describe service oriented architecture in detail. 08
- b) What is web-service? Differentiate between SOAP and REST web-services. 07

Section B

Q.6 Write short notes on (any two) 10
- i) Hive
- ii) Security challenges in cloud
- iii) MEMS

Q.7
- a) Explain working of HDFS in detail. 08
- b) Explain architecture of context-aware services. 07

Q.8
- a) How relational operations can be performed in Map-Reduce model? Explain in detail. 08
- b) Write in detail about infrastructure security at application level. 07

Q.9
- a) Explain architecture of HBase in detail. 08
- b) Explain in detail location awareness services. 07

Q.10
- a) Explain in detail security management in cloud. 08
- b) Describe various phases in data-life cycle. 07

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SUBJECT CODE NO:- K-340
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(IT) Examination Oct/Nov 2016
Elective-I: Compiler Construction
(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.2 to Q.5 and from Q.7 to Q.10 from each section.
iii) Figures to the right indicate full marks.

Section A

Q.1	a)	What is cross compiler? Explain bootstrapping in brief	05
	b)	List and explain any five compiler construction tools	05
Q.2	a)	What is ambiguity in grammar? Explain with suitable example.	07
	b)	Explain in detail the role of lexical analyzer	08
Q.3	a)	Explain working of shift reduce parser.	07
	b)	Write short note on LR parser.	08
Q.4	a)	Explain recursive descent parser with example.	07
	b)	Write the steps to construct syntax tree for expression.	08
Q.5	a)	Write short note on -SDT scheme for desk calculator.	07
	b)	Explain different types of three -address codes.	08

Section B

Q.6	a)	What information is contained in the symbol table?	05
	b)	What are types of errors? How are they treated in compiler	05
Q.7	a)	Write short note on run-time storage administration.	07
	b)	Explain about data flow analysis.	08
Q.8	a)	With suitable examples, explain 1) Global common subexpression 2) Copy propagation 3) Dead-code elimination	07
	b)	Discuss various problems in code generation	08
Q.9	a)	Write various applications of DAGS.	07
	b)	With suitable example, explain loop unrolling and loop jamming.	08
Q.10	a)	Explain working of simple code generator in brief.	07
	b)	With suitable example, explain various characteristics of peephole optimization.	08

Total No. of Printed Pages:2

SUBJECT CODE NO:- K-341
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE/IT/ETC/EE) Examination Oct/Nov 2016
Elective-I: Inter Connection Networks
(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) Solve any 2 from Q.2, Q.3, Q.4 & Q.5 from Section 'A'.
iii) Solve any 2 from Q.7, Q.8, Q.9, & Q.10 from Section 'B'.

Section A

Q.1 Solve any two 10
a) Write a note on EIGRP.
b) Write a note on classes of IP addresses.
c) Write a note on OSI Model.

Q.2 a) Explain OSPF Routing Protocol in detail. 08
b) Find subnet no. valid IP_s & broadcast address for (i) 201·101·13·0/26 (ii) 172·16·15·0/24 07

Q.3 a) Write 2 lines on each protocol - 08
1. TELNET 2. SSH 3. POP-3 4. FTP
b) Write class, no. of networks, no. of hosts for – 07
1. 195·155·77·0/29 2. 175·35·11·0/20 3. 165·155·22·0/27

Q.4 a) Write a note on 08
1. As 2. Metric 3. AD value 4. Convergence
b) What is TCP/IP & TCP/IP Model? Explain with protocols on each layer. 07

Q.5 a) Find class no. of network bits, host bits for 08
1. 177·11·10·0/21 2. 190·1·12·0/30 3. 161·12·102·0/22 4. 19·15·10·0/24
b) Write a note on 07
1. VLSM 2. CIDR 3. Load balancing in routing

Section B

Q.6 Solve any two : 10

a) Write step by step procedure to backup router IOS.
b) What are WAN connection types?
c) Write commands for
i) TELNET & console password ii) Hostname iii) Set clock & banner

Q.7 a) What is VLAN? Write its advantages. 07
b) What is VTP? What are VTP modes? 08

Q.8 a) What is ACL- write detailed note. 08
b) What is data encapsulation? How data changes it's from at each layer. 07

Q.9 a) Write procedure to recover router password. 08
b) Write a note on 07
- router components &
- router booting process

Q.10 a) What is Spanning Tree Protocol & its types? 08
b) Write what are switching types. Draw figure if necessary. 07

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SUBJECT CODE NO:- K-342
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE/IT) Examination Oct/Nov 2016
Elective-I: Internet of Things
(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) Solve any two questions from the remaining in each section.

Section A

Q.1	a)	What is internet of things? Explain the vision of IOT in detail.	05
	b)	What is role of things and internet in IOT?	05
Q.2	a)	Describe the four pillars of IOT? How they are inter-connected with each other?	08
	b)	Explain in detail M2M model.	07
Q.3	a)	Explain the layered architecture of IOT? Describe building blocks of IOT?	10
	b)	Explain the working of RFID?	05
Q.4	a)	What is IOT protocol stack? Why TCP/IP protocols are not suitable for IOT? Justify.	10
	b)	What is role of Big Data in IOT?	05
Q.5	Write short note (any three)		15

i) NFC
ii) MQTT
iii) IOT Analytics
iv) WSN
v) Zig Bee

Section B

Q.6	a)	Compare and contrast web of Things and internet of Things?	05
	b)	What are different platform middle wave for WOT?	05
Q.7	a)	What is cloud of Things? Explain its architecture in detail.	10
	b)	What is WOT portal & business intelligence?	05
Q.8	a)	What are major threats for IOT? Describe physical security in detail?	08
	b)	Explain security and privacy in IOT cloud?	07
Q.9	a)	Explain with block diagram IOT application in smart city with reference to waste management or traffic management.	10
	b)	Explain IOT application deployment scenarios in any one domain.	05
Q.10	Write short note (any three)		15

i) Trust for IOT
ii) Smart health care
iii) Agility in collaborative production environment
iv) Wearable

2016

Total No. of Printed Pages:1

SUBJECT CODE NO:- K-365
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(IT) Examination Oct/Nov 2016
Elective-I: Object Oriented Analysis & Modeling
(Revised)

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

Please check whether you have got the right question paper.

N.B i) Question 1 from section A and Question 6 from section B are compulsory.
ii) Assume suitable data, if necessary.
iii) Solve any two questions from each section from remaining questions.

Section A

Q.1 Solve any two. 10
a) What key abstraction & mechanism? Explain.
b) State & explain the benefits & risk of object oriented development.
c) Differentiate aggregation & inheritance.

Q.2 a) What is complexity & why the s/w is inherently complex. Explain in detail. 07
b) Draw & explain class - diagram and module diagram of ATM system. 08

Q.3 a) What is class & what is not a class? Explain in detail with example. 07
b) What are the building qualities of classes & object? Explain in detail. 08

Q.4 a) Explain in detail evolution of object model. 07
b) What are the major elements of object model? Explain in detail. 08

Q.5 a) Discuss & explain staffing and reuse of project development in detail. 07
b) Discuss & Explain management and planning related to project development in detail. 08

Section B

Q.6 Solve any two. 10
a) What are the reasons for studying design pattern?
b) Compare creational & Behavioural design pattern.
c) Define Adapter and what is the motivation of adapter pattern?

Q.7 a) What is the intent and state the collaboration of command design pattern. 07
b) Explain design problem of a document editor in detail. 08

Q.8 a) State the motivation & explain the structure of prototype design pattern in detail. 07
b) State the applicability of observer pattern and also state under what conditions should an observer pattern not be used. 08

Q.9 a) Explain in detail organizing the catalogue of design pattern. 07
b) What is the motivation of Abstract factory pattern and explain how it is implement with example. 08

Q.10 a) What does each decorator object wrap & explain the implementation of decorator design pattern. 07
b) Explain in detail proxy design pattern with example. 08

Total No. of Printed Pages:1

SUBJECT CODE NO:- K-221
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination Oct/Nov 2016
Parallel & Distributed 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 from Q.No.7 to Q.No.10 of each section.
iii) Figures to the right indicate full marks.

Section A

Q.1	a)	Explain the scope of parallel computing.	05
	b)	Explain the advantages of threaded programming models.	05
Q.2	a)	Write the example of sparse matrix –vector multiplication, explain the task interaction graph.	08
	b)	Explain the threads creation and termination in Pthreads API.	07
Q.3	a)	With an appropriate diagram explain CUDA memory types.	08
	b)	Explain the open MP programming model with suitable example.	07
Q.4	a)	Explain superscalar execution with an example.	07
	b)	With a neat diagram explain SIMD and MIMD architecture. Also give an example showing execution of conditional statements on SIMD architecture.	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)	With an appropriate diagram explain architecture of distributed shared memory system.	05
Q.7	a)	Write a short note on Java RMI.	07
	b)	Explain any two consistency models in DSM.	08
Q.8	a)	With a suitable example explain the algorithm for vector clocks.	07
	b)	Explain the following models of distributed computation. i) Happened before model. ii) Potential causality model.	08
Q.9	a)	Explain the following terms in Hadoop i) Namenode and datanode ii) Secondary namenode iii) Job tracker iv) Task tracker	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)	Distinguish between RPC and RMI. Also explain RPC in detail.	07

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Total No. of Printed Pages:1

SUBJECT CODE NO:- K-222
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(IT) Examination Oct/Nov 2016
Cloud Computing
(Revised)

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

Please check whether you have got the right question paper.

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

Section A

Q.1 a) What is cloud computing? Enlist and explain essential characteristics of cloud computing. 05
b) Explain advantages & disadvantages of virtualization. 05

Q.2 a) What is the concept of cloud data centers? What is the general requirement for building a cloud data store? 07
b) Explain the concept of utility computing and elastic computing in cloud. 08

Q.3 a) Explain in detail infrastructure as a service. What are the benefits and drawbacks? 07
b) Explain a user view of Google App Engine with suitable block schematic. 08

Q.4 a) What is a Web- Service? Explain in detail REST Web-Service. 07
b) Explain the concept of full virtualization with respect to cloud computing implementation. 08

Q.5 Write short notes on any three of the following 15
a) Parallel computing
b) Desktop virtualization
c) SOAP Web-Service
d) Software as a service.

Section B

Q.6 a) Define Big Data. What are the various challenges in handling Big-Data? 05
b) Explain working of mobile web services and mobile interoperability? 05

Q.7 a) Define Hadoop. Explain in detail architecture of Hadoop. 07
b) What are various file system formats used in cloud. Explain the features of the same. 08

Q.8 a) Define Security. What are the Security Challenges in cloud? 07
b) Explain in detail Infrastructure Security at Host level. 08

Q.9 a) Explain how applications can be deployed over cloud. 07
b) What is the dark web? Explain the Google APIs in detail. 08

Q.10 Write short notes on any three of the following. 15
a) Disaster recovery
b) Relational operation using MapReduce
c) Projects in Hadoop.
d) Aggregation and intermediation.

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Total No. of Printed Pages:2

SUBJECT CODE NO:- K-252
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination Oct/Nov 2016
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.1 and Q. No.6 are compulsory.
ii) Attempt any two questions from Q.2 to Q.5 and from Q.7 to Q. 10 0f each section.
iii) Figures to the right indicate full marks.

Section A

Q.1	a)	What is cross compilation? Explain bootstrapping in brief.	05
	b)	Draw and explain various phases of compilation	05
Q.2	a)	Write and explain the specification of various tokens.	07
	b)	Explain the role of lexical analyzer. Also explain with suitable examples-patterns, tokens and lexemes.	08
Q.3	a)	Write and explain the algorithm for the construction of a DFA from an NFA.	07
	b)	For bottom-up parsing, explain with suitable example-reductions and handle pruning.	08
Q.4	a)	Explain role of parser with suitable diagram.	07
	b)	Draw the model of LR parser. Also write the LR parsing algorithm with functions ACTION and GOTO.	08
Q.5	a)	Write short note on LALR parser	07
	b)	Consider the Grammar. E→ TE' E′ → $+TE'$| ∈ T→ FT' T′→∗ FT'| ∈ F→ $(\in)\|id$ For the above grammar, construct predictive parsing table.	08

Section B

Q.6	a)	What are three address codes? Explain various types of three address codes.	05
	b)	Translate the arithmetic expression. a+ -(b+c) into i) syntax tree ii) triple iii) quadruple iv) Indirect triple.	05
Q.7	a)	Write short note on- Type checking and Type conversion.	07
	b)	Consider following SDD- L.val= E.val E.val=E_1.val+T.val E.val= T.val T.val=T1.val * F.val	08

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T.val=F.val
F.val=E.val
F.val=digit.lexval

Draw the annotated parse tree for following expressions.

1) 3*5+4n 2) (3+4)*(5+6) n

Q.8 a) Explain the specification of simple type checker. 07

b) What is code optimization? With suitable example explain. 08

1) Copy propagation
2) Dead code elimination.
3) Code motion
4) Induction variable and reduction in strength.

Q.9 a) Write the algorithm for partitioning three address instruction into basic blocks. 07

b) Explain with suitable example loop unrolling, loop jamming and constant folding. 08

Q.10 a) Explain working of simple code generator in brief. 07

b) What is peephole optimization? With suitable examples, explain various characteristics of peephole optimization. 08

Total No. of Printed Pages:1

SUBJECT CODE NO:- K-253
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(IT) Examination Oct/Nov 2016
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.01 and Q. No. 06 are compulsory.
ii) Solve any two from Q. 2 to Q. 5 for section A and any two from Q.7 to Q.10 for section B.
iii) Draw appropriate diagram wherever necessary

Section A

Q.1	a)	Define spatial referencing and explain geographic coordinate system.	05
	b)	What are different types of impedances?	05
Q.2	a)	Describe the main factors that are important in cartographic process.	08
	b)	Explain object oriented approach for structuring real world in computer.	07
Q.3	a)	Why is it difficult to model third and fourth dimension in GIS.	07
	b)	Which are the compaction techniques used to overcome problem of size in raster data set.	08
Q.4	a)	What are spatial data structures? Outline their importance in GIS.	08
	b)	Describe the methods used to check for errors in the encoding of attribute data.	07
Q.5	a)	What is Geocoding?	05
	b)	Explain web based GIS system.	05
	c)	In GIS what is importance of automatic digitizing?	05

Section-B

Q.6	a)	Define any five data analysis terminologies	05
	b)	Explain deterministic and stochastic mathematical process model.	05
Q.7	a)	Explain measurement in GIS 1) Length 2) Areas	08
	b)	What are main elements of map?	07
Q.8	a)	How can GIS be used in the modelling of human process.	08
	b)	Describe methods of querying spatial and attribute data.	07
Q.9	a)	Explain working of remote sensing.	08
	b)	What are cartograms? How do they differ from traditional map output?	07
Q.10	a)	Differentiate between model of spatial form and model of spatial process.	08
	b)	Explain the ways in which overlay is used for integrating data.	07

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Total No. of Printed Pages:1

SUBJECT CODE NO:- K-289
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(CSE) Examination Oct/Nov 2016
Visual Modelling
(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 distributed design method.
b) What is model? White about principles of modelling?
c) What is purpose of deployment diagram?

Q.2 a) Why is it necessary to have a variety of diagrams in a model of a system? 07
b) What is complexity? Explain why software is inherently complex. 08

Q.3 a) Explain steps to find use cases in use case diagram. 07
b) How CRC cards are used to create class diagram? 08

Q.4 a) Write guidelines for creating activity diagram. 07
b) Explain notations, features and importance of communication diagram. 08

Q.5 a) Draw and explain sequence diagram for course wave management system. 07
b) Draw and explain communication diagram for ATM system. 08

SECTION B

Q.6 Solve any two 10
a) Explain supporting multiple look and feel standards in document editor.
b) How design pattern help in redesign?
c) Explain design patterns in small talk MVC.

Q.7 a) Explain the catlog of design pattern 07
b) Explain abstract factory pattern using document editor. 08

Q.8 a) Explain decorator design pattern in detail. 07
b) Explain in sequences and implementation of proxy design pattern. 08

Q.9 a) Explain consequences and implementation of strategy design pattern. 07
b) Explain document structure problem in detail. 08

Q.10 a) Explain command design pattern in detail. 07
b) Explain creational design pattern in detail. 08

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Total No. of Printed Pages:2

SUBJECT CODE NO:- K-290
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(IT) Examination Oct/Nov 2016
E-Business Management
(Revised)

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

Please check whether you have got the right question paper.

N.B i) Assume suitable data if required.
ii) Questions No. 1 from Section A and Question No. 6 from Section B are compulsory. Solve two questions from each section from remaining.
iii) Figures to the right side indicate full marks.

SECTION A

Q.1	a)	What is e-Business, Explain its various characteristics.	05
	b)	Write a short note on e-Business requirements.	05
Q.2	a)	What is e-Business strategy? Explain strategic planning process.	07
	b)	What is an e-business model, Explain different Business Models?	08
Q.3	a)	Explain e-Business Architecture, What are the various Trends Driving e-Business Architecture.	08
	b)	Why there is a need of new customer care objectives? Explain.	07
Q.4	a)	Explain customer relationship management in detail.	07
	b)	Write a short note on Building a CRM infrastructure.	08
Q.5	Write a short notes on the following (Any Three)		15

i. Selling chain management
ii. Order acquisition process
iii. Elements of selling chain management
iv. Transaction Cost Economics.

SECTION B

Q.6	a)	What is ERP? Explain its importance for an organisation.	05
	b)	Explain implementation of ERP.	05
Q.7	a)	With a suitable diagram explain Supply chain management.	07
	b)	What are e-procurement activities? Explain e- procurement infrastructure.	08
Q.8	a)	Explain in detail applications of knowledge management.	07
	b)	Explain the following with respect to KM.	08
		i. Real-Time Personalisation	
		ii. Infrastructure for Broadcast.	
Q.9	a)	Write a short note on Business process.	07
	b)	Explain the role of IT in Business process.	08

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Q.10 Write short notes on the following. (Any Three) 15

i. e-Markets
ii. e-Business Risks
iii. e-market success factors
iv. Three Layer BI Solutions infrastructure.