32524/E 240

Reg. No. | | | | | | | | |

Fifth Semester B.C.A. 3 Degree Examination, November/December 2018
COMPUTER NETWORKS (Regular/Repeater)

Time : 3 Hours Max. Marks : 80

Instructions : 1) Answer all Sections.
2) Draw neat diagrams wherever necessary.
3) Write question numbers correctly.

SECTION – A

1. Answer **any ten** questions. **(10×2=20)**
   a) Define :
      i) Computer Networks ii) Network Topology.
   b) Mention the types of services.
   c) Give the examples for guided and unguided media.
   d) What do you mean by switching ? Mention its types.
   e) What is Parity checking ?
   f) Which are bit-oriented and character-oriented protocols ?
   g) Mention three different persistent versions of CSMA protocols.
   h) What are DCF and PCF in Wireless LAN ?
   i) What are Flooding and Selective Flooding ?
   j) What do you mean by choke packets ?
   k) What are the two types of releasing the connection ?
   l) What are the functions of SMTP and HTTP ?

SECTION – B

Answer **any four** questions. **(4×5=20)**

2. How do computers/devices arranged in star and ring topology ? Explain with neat diagram.
3. Draw a neat diagram of optical fiber and explain its characteristics.
4. Explain GoBack N and Selective Repeat.
5. What are the two versions of ALOHA protocols ? Explain pure ALOHA.
6. With the help of neat diagram explain Token Bucket Algorithm.
7. What is DNS ? Explain.

P.T.O.

SECTION – C

Answer **any four** questions. **(4×10=40)**

8. Explain layered architecture of ISO-OSI Reference Model.
9. Transmitter sends frame 1001 by calculating Hamming code (7, 4). But receiver receives it as 1101. Correct the error.
10. Draw a neat diagram of Architecture and Frame format and explain Bluetooth as an IEEE 802.15 standard.
11. What are the five different steps in Link State Routing Algorithm ? Explain them briefly.
12. Explain TCP and UDP segment headers.

32521/E 210

Reg. No. | | | | | | | | |

V Semester B.C.A. 3 Degree Examination, November/ December 2018
(Regular/Repeater)
OPERATING SYSTEM
Abraham Silberschatz/Galvin

Time : 3 Hours Max. Marks : 80

Instructions : ***1) Answer the questions of all three Sections as per the instructions.***

2) Draw the diagrams wherever necessary.

SECTION – A

1. Answer **any 10** of the following : **(10×2=20)**
   a) What is time sharing ?
   b) Mention any two applications of real time systems.
   c) Differentiate between waiting time and TAT.
   d) Mention the two instructions used for the implementation of mutual exclusion in critical section.
   e) Define deadlock.
   f) Differentiate between fragmentation and compaction.
   g) What is page fault ?
   h) What is bad block ?
   i) Define bit vector.
   j) List different approaches to authenticate a user.
   k) What is worm ?
   l) What is OTP ?

SECTION – B

Answer **any 4** questions : **(4×5=20)**

2. Discuss the multi-programming concept.
3. Explain the various file attributes.
4. Explain RR (Round Robin) method of CPU scheduling.
5. Explain the services provided by an operating system.
6. Explain PCB with neat diagram.
7. Explain the conditions to prevent deadlock.

P.T.O.

SECTION – C

Answer **any 4** of the following : **(4×10=40)**

8. Consider the following set of processes with CPU burst time given in milliseconds.

Process	**Burst Time**
P_1	10 ms
P_2	1 ms
P_3	2 ms
P_4	1 ms
P_5	5 ms

Processes are arrived in P_1, P_2, P_3, P_4, P_5 order of all at time 0.

1) Draw Gantt charts to show execution using SJF and RR (quantum = 1 ms) scheduling.
2) Calculate average waiting time for SJF and Round Robin Scheduling.
3) Calculate average TAT (Turn Around Time) for SJF and Round Robin Scheduling. **(2+4+4)**

9. a) Explain FIFO, OPR page replacement algorithms considering the following reference string.
[7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1]

b) Explain SSTF (shortest seek time first disk scheduling algorithm). **(5+5)**

10. Consider the following snapshot of the system.

	Allocation			
	A	B	C	D
P_0	0	0	1	2
P_1	1	0	0	0
P_2	1	3	5	4
P_3	0	3	6	2
P_4	0	0	1	4

	Maximum			
	A	B	C	D
P_0	0	0	1	2
P_1	1	7	5	0
P_2	2	3	5	6
P_3	0	6	5	2
P_4	0	6	5	6

Available			
A	B	C	D
1	5	2	0

Using Banker's algorithm, answer the following.

i) What is the content of NEED matrix ?
ii) Is the system in SAFE state ? If yes, give the SAFE state.
iii) If a request from process PI, arrives for (0 4 2 0), can the request be granted immediately ?

(2+6+2)

11. a) Explain linked allocation of diskspace with neat diagram.

b) Explain First fit, Best fit, Worst fit memory allocation with an example. **(5+5)**

12. a) Explain paging hardware with an example.

b) Write a note on Inter Process Communication. **(5+5)**

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V Semester B.C.A. 3 Degree Examination, Nov./Dec. 2018
(Regular/Repeater)
DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours Max. Marks : 80

Instructions : 1) All Sections are compulsory.

2) Draw diagram wherever necessary.

SECTION – A

1. Answer **any ten** of the following questions : **(10×2=20)**
   a) What is DBMS ?
   b) What is schema ?
   c) How primary key is useful ?
   d) What do you mean by relation ?
   e) List the responsibilities of DBA.
   f) What is relational algebra ?
   g) What do you mean by redundancy ?
   h) What is functional dependency ?
   i) What is domain of relation ? Give example.
   j) Define database recovery.
   k) What is deadlock ?
   l) Expand A.C.I.D.

SECTION – B

Answer **any four** of the following questions : **(5×4=20)**

2. Elaborate three level architecture of database system.
3. What is ER diagram ? Discuss various symbols used in ER diagram.
4. What is attribute ? Discuss the following attributes.
   a) Composite attribute.
   b) Multivalued attribute.
5. Explain different key constraints in relational database.
6. What is normalization ? Explain 1st normal form.
7. Discuss any five aggregation function of SQL.

P.T.O.

SECTION – C

Answer **any four** of the following questions : **(10×4=40)**

8. a) Explain any five types of DBMS interfaces.
   b) Discuss different categories of end users who access to the database. **(5+5)**
9. Explain the ER schema diagram for the company database. **10**
10. a) What is unary relational operator ? Describe the PROJECT and SELECT operation.
    b) Explain the following algebraic operation with example
       i) UNION
       ii) MINUS. **(5+5)**
11. a) Discuss the informal design guidelines of relational schema.
    b) Explain the second normal form. **(5+5)**
12. a) Write the syntax for the following SQL commands
       i) INSERT
       ii) DELETE
       iii) CREATE
       iv) SELECT.
    b) Explain the STATE transaction diagram for transaction execution. **(4+6)**

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Reg. No. | | | | | | | | |

V Semester B.C.A. 3 Degree Examination, Nov./Dec. 2018
(Regular and Repeaters)
. NET FRAMEWORK USING C#
Theory

Time : 3 Hours Max. Marks :80

Instruction : All Parts are compulsory.

PART – A

1. Answer **any ten** of the following . **(10×2=20)**
   a) Expand CLR and CTS.
   b) What are the advantages of using .NET ?
   c) What is sealed class ?
   d) Define Bugs and errors.
   e) What is the use of finally block ?
   f) Define exception. Give example.
   g) Define interface. Write its syntax.
   h) Define multicast delegate.
   i) What is .NET assembly ?
   j) Mention any two members of Fileinfo class.
   k) Write the syntax of for each loop.
   l) Mention any four data types in C#.

PART – B

Answer **any four** of the following. **(4×5=20)**

2. Explain various features of .NET Framework.
3. Explain different methods of file system GC type.
4. Write a program to demonstrate exception handling.
5. Explain how interfaces are defined and implemented.
6. Write a C# program to find second largest element in a single dimensional array.
7. Explain single file and multi file assemblies.

PART – C

Answer **any four** of the following. **(4×10=40)**

8. What is .NET Framework ? Explain building blocks of .NET Platform.
9. Discuss the pillars of OOP.
10. a) How to document C# source code via XML ? Explain with an example.
    b) Write a C# program to demonstrate the use of delegates. **(5+5)**
11. a) Differentiate between system level and application level exception.
    b) Write a C# program to reverse a string and check whether it is palindrome. **(5+5)**
12. a) Explain stringWriters and StringReaders Classes.
    b) Write a program to demonstrate the use of in, out and ref. variables. **(4+6)**

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V Semester B.C.A.3 Degree Examination, November/December 2018
WEB PROGRAMMING (Regular/Repeater)

Time : 3 Hours Max. Marks : 80

Instructions : ***a) Draw diagrams wherever necessary.***
b) Write code snippets wherever required.
c) Answer all the Sections.

SECTION – A

Answer **any ten** of the following : **(2×10=20)**

1. a) What is the general format of URL ?
   b) How do you display ampersand and degree in HTML ?
   c) What is the use of meta element in HTML ?
   d) Briefly explain how to add a menu item to a menu using <select> tag.
   e) What are the uses of and tags ?
   f) List the important uses of javascript.
   g) Name any four font properties.
   h) List the components of data sets in ADO.NET.
   i) What do you mean by code sharing in ASP.NET.
   j) Name page directives of ASP.NET.
   k) List different values of type attribute of the Rangevalidatar Control.
   l) What is the task of connection object ?

SECTION – B

Answer **any four** of the following : **(5×4=20)**

2. What is the significance of <input> tag ? Explain its prominent attributs.
3. Write a javascript program to convert temperature from celcius to farenheit. Formula F = (C * 9/5) + 32).
4. Explain various array methods in javascript.
5. Write a note on Global.asasc file and its methods.
6. Explain Filenpload control and its important properties.
7. Discuss the important features of ADO.NET.

P.T.O.

SECTION – C

Answer **any four** of the following :

8. Explain the forms in HTML. Give the Sytax and uses of any five tags which are used in the HTML forms. **10**

9. List any five metacharacters used in pattern matching. Explain their working with suitable examples. **10**

10. a) Explain different states of an ASP.NET application.
    b) Explain any four file types of ASP.NET. **(6+4=10)**

11. Write notes on the following ASP.NET controls.
    a) Radio button.
    b) Required field validator. **(6+4=10)**

12. Explain the following :
    a) Objectives of Data providers in ADO.NET.
    b) Different types of data providers. **(4+6=10)**