NOVEMBER 2017

(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2017 ONLY)

(NO.OF PAGES: 2)

17 UIT 101

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI
END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

I SEMESTER **TIME: 3 HOURS**

PART – III
PROGRAMMING IN 'C'

SECTION – A (10 X 1 =10 MARKS)

ANSWER THE FOLLOWING QUESTIONS:
MULTIPLE CHOICE QUESTIONS

1. C Language is a _____
   a. High level language b. Low level language
   c. Machine language d. Assembly language
2. C has a built-in multi way decision statement known as _____
   a. For loop b. While c. Switch d. If statement
3. The function _____ is used to determine the length of a string
   a. stringlen() b. strlen() c. strlength() d. stringl()
4. A _____ is a collection of data items under one name in which the items share the same storage
   a. Union b. Array c. Structure d. None
5. Which mode is used for opening a file for updating?
   a. fopen() b. Open() c. fclose() d. fshow()

SHORT ANSWERS

6. Define Pseudocode.
7. Give the syntax of for loop
8. Define array
9. Define Structure
10. What is fseek()?

SECTION - B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a. Explain Structure of a C Program

(OR)

b. Explain Constants and its types

12. a.Briefly explain Switch case with suitable example

(OR)

b. Explain the following

i. Nested if..else statement

ii. Else if ladder

13. a. Discuss one-dimensional array

(OR)

b.What is Pointer? How do initialize and access a pointer variable?.

14. a. Explain Recursion. Write a C program for finding Factorial of a given number.

(OR)

b.Discuss Union

15. a. Explain file and its functions

(OR)

b.What do you know about command line arguments?

SECTION - C (4 X 10 = 40MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS. (16th QUESTION IS COMPULSORY|)

16. What are the different Data types in C? Write suitable examples and explain them.
17. List out the types of Operators in C and explain them.
18. Explain the following
    i. While
    ii. Do-while
    iii. For loop
19. Explain String Handling functions and write a C program for String Palindrome checking
20. Discuss Structure in detail
21. Write a C Program to read and write a text in a file.

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(NO.OF PAGES: 2)

17 UIT 102

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

I SEMESTER **TIME: 3 HOURS**

PART – III
COMPUTER SYSTEM ARCHITECTURE

SECTION – A (10 X 1 =10 MARKS)

ANSWER THE FOLLOWING QUESTIONS:

MULTIPLE CHOICE QUESTIONS

1. A computer instruction is a _____ code that specifies a sequence of micro operations for the computer.
   a) Binary b) Digital c) Analog d) Wave

2. The two operations of a _____ are the insertion and deletion of items.
   a) Pointer b) Modifier c) Program d) Stack

3. _____ is used mostly for storing files of data.
   a) ASCII b) Magnetic tape c) Peripheral d) None

4. The _____represents an organization that includes many processing units under the supervision of a common control unit.
   a) SIMD b) MIMD c) LIMD d) NIMD

5. The _____ memory can transfer information in both directions.
   a) Main b) Auxiliary c) Cache d) RAM

6. Describe Instruction Code.
7. What is Stack Pointer?
8. Describe Peripheral.
9. Define *Pipelining*.
10. What is Multiprogramming?

SECTION –B (5X5=25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Converse on Stored Program Organization.

(OR)

b) Give short notes on Control flow Chart.

(CONTD … 2)

12. a) Inscribe comments on Data transfer Instructions.

(OR)

b) Confer about Reverse Polish Notation.

13. a) Discuss Input/output versus Memory Bus.

(OR)

b) Give short notes on CPO-IOP Communication.

14. a) Discuss Arithmetic Pipeline with example.

(OR)

b) Explain Memory Interleaving.

15. a) Engrave about Associate Memory page table.

(OR)

b) Carve short notes on Magnetic Disks.

SECTION - C (4 X 10 = 40MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS. (16th QUESTION IS COMPULSORY)

16. Illustrate the Memory Reference Instructions.

17. Draw a Block diagram of General Register Organization and explain.

18. Illuminate the concept of DMA Controller.

19. Explicate on Array Processors.

20. Explain in detail Memory Hierarchy.

21. Discuss Cache Memory

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2017 ONLY)

(NO.OF PAGES: 3)

17 UIT 1A1

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

I SEMESTER **TIME: 3 HOURS**

PART – III
STATISTICAL METHODS

SECTION – A (10 X 1 =10 MARKS)

ANSWER THE FOLLOWING QUESTIONS:

MULTIPLE CHOICE QUESTIONS

1. The sum of deviations taken from the arithmetic mean is _____.

   a. Minimum b. Zero c. Maximum d. Infinity

2. The range of the first 10 prime numbers 2,3,5,7,11,13,17,19,23,29 is _____.

   a. 28 b. 26 c. 29 d. 27

3. The coefficient of correlation:

   a. varies between ±1 b. can be less than 1

   c. can be more than 1 d. has no limits

4. When a die is tossed, what is the probability of getting more than 4?

   a. 1/3 b. 1/2 c. 2/3 d. 1/6

5. Small sample theory is applicable when _____.

   a. $n > 30$ b. $n < 30$ c. $n=30$ d. $n \leq 30$

6. Give the formula for Harmonic mean of continuous series.
7. Write the Quartile deviation formula.
8. Define Regression.
9. What is an impossible event?
10. What is χ^2 test?

SECTION – B (5 X 5=25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Calculate the mean for the following

Value	1	2	3	4	5	6	7	8	9	10
Frequency	40	50	55	78	58	60	73	35	43	48

(OR)

(CONTD … 2)

b) Find H.M for the following data

Size of Items	6	7	8	9	10	11
Frequency	4	6	9	5	2	8

12. a) Find the standard deviation of the data

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	8	12	17	14	9	7	4

(OR)

b) Calculate mean deviation from mean and mode for the following

A	B	C	D	E	F	G	H	I
7	4	10	9	15	12	7	9	7

13. a) Calculate coefficient of correlation

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

(OR)

b) From the following data of marks obtained by 10 students in physics and chemistry calculate the

rank correlation coefficient

Physics(P)	35	56	50	65	44	38	44	50
Chemistry(Q)	50	35	70	25	35	58	75	60

14. a) Two cards are drawn from a pack of cards at random. What is the probability that it will be

(i) a diamond and a heart (ii) a king and a queen.

(OR)

b) A ball is drawn at random from a box containing 6 red balls, 4 white balls and 5 blue ball.

Determine the probability that it is (i) Red (ii) White (iii) Blue (iv) Not Red and (v) Red or

white.

15. a) Write short notes on Estimation theory.

(OR)

b) In a hospital 480 female and 520 male babies were born in a week. Do these figures confirm the hypothesis that males and females are born in equal number?

SECTION – C (4×10=40 Marks)

ANSWER ANY FOUR OUT OF SIX QUESTIONS. (16th QUESTION IS COMPULSORY|)

16. Find the missing frequencies for the following whose mean was found to be 1.46.

No of Accidents	0	1	2	3	4	5	Total
Frequency (No of days)	46	?	?	25	10	5	200

17. Calculate the mode

Size of item	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Frequency	20	24	32	28	20	16	34	10	8

18. Calculate coefficient of quartile deviation and coefficient of variation from the following data

Marks	Below 20	Below 40	Below 60	Below 80	Below 100
No of Students	8	20	50	70	80

19. Obtain the two regression equations for the following data

Price	10	12	13	12	16	15
Amount Demanded	40	38	43	45	37	43

20. The odds in favour of a certain events are 2 to 5 and the odds against another event independent of the former are 5 to 6. Find the chance that atleast one of the events will happen.

21. A dice is tossed 120 times with the following results

No turned up	1	2	3	4	5	6	Total
Frequency	30	25	18	10	22	25	120

Test the hypothesis that the dice is unbiased.

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2016 ONLY)

(NO.OF PAGES: 2)

16 UIT 307

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

III SEMESTER **TIME: 3 HOURS**

PART – III
OPERATING SYSTEMS

SECTION – A **(10 X 1 =10 MARKS)**

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS.

1. The operating system can be considered to be a collection of _____.
   a) Callable programs b) Hardware's c) Circuits d) Chips

2. The IPC stands for _____.
   a) Inter Program Communication b) Inter Procedure Communication
   c) Inter Progression Communication d) Inter Process Communication

3. To bring the program again from the disk into the main memory is called _____.
   a) Swapping From b) Swapping In c) Swapping Insert
   d) Swapping Into

4. The _____operating system is called remotely from the client workstation in the RPC.
   a) Client b) Server c) Middleware d)Node

5. The _____supports for concealed file compression.
   a) NTSF b) EFS c) DES d)NTFS

SHORT ANSWERS.

6. Define Operating Systems.
7. What is MessagePassing?
8. Define Segments.
9. What is Parallel Processing?
10. Define API.

(CONTD … 2)

SECTION –B (5X5=25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Discuss layered operating system .

(OR)

b) Carve comments on DMA.

12. a) Inscribe on process states in process management .

(OR)

b) How will you enable and disable interrupts? And discuss.

13. a) Converse about graphical representation of a deadlock.

(OR)

b) Give short notes on allocation algorithm in partitioning.

14. a) Discuss the differences between distributed and parallel processing.

(OR)

b) Incise on bus based interconnections.

15. a) Confer about the important features of NTFS.

(OR)

b) Engrave short notes on memory management in windows 2000.

SECTION –C (5X8=40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain services of operating systems.

(OR)

b) Illustrate block and block numbering scheme.

17. a) Draw a Block diagram of multithreading and explain it.

(OR)

b) Elucidate protection and sharing in fixed portioning model.

18. a) Write in detail on single contiguous memory management.

(OR)

b) Explain non contiguous allocation general concepts.

19. a) What are the needs there for process migration? And explain it.

(OR)

b) Explicate on distributed file management.

20. a) How will you boot windows vista? And explain it.

(OR)

b) What are the security mechanisms provided by the windows 2000? And discuss.

M7/- **********

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(NO.OF PAGES: 2)

16 UIT 308

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS: NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

III SEMESTER **TIME: 3 HOURS**

PART – III

RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A (10 X 1 =10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

1. A column in a table that references a column in another table is known as a _____ key.
   a) Primary b) Foreign c) Composite d) Secondary
2. The constraint that defines a condition that every row must satisfy is _____
   a) value constraint b) unique constraint c) integrity constraint
   d) check constraint
3. The statement that adds a new row to the table is _____.
   a) SELECT b) INSERT c) UPDATE d) DELETE
4. A pointer to a large block of single-byte character data of fixed width data type is _____.
   a) BLOB b) CLOB c) NCLOB d) BFILE
5. Database triggers are executed when,
   a) calling them b) running procedure c) click event occurs
   d) contents of the table are changed

Answer in short :

6. Relational algebra is a _____ language.
7. The statement that is used to rename a column in a table is _____.
8. Name the function used to truncate the value.
9. SQL stands for _____.
10. The contents are known at compile time in a _____ cursor.

SECTION –B (5X5=25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Write a note on DBMS.

(OR)

b) Describe dependency diagram with an example.

12. a) Explain SQL statements for command line queries.

(OR)

b) Write short notes on spooling.

13. a) Describe Sorting.

(OR)

b) Describe any two grouping functions with example each

14. a) Describe writing comments in PL/SQL.

(OR)

b) Describe loop statement in PL/SQL.

15. a) Write a note on PL/SQL exceptions.

(OR)

b) How to declare a PL/SQL table? Explain with an example.

SECTION –C (5X8=40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) What are the operations used by relational algebra ? Explain any 3 in detail.

(OR)

b) Explain 1NF, 2NF and 3NF in detail.

17. a) Explain the naming rules and conventions in oracle.

(OR)

b) How to create an oracle table? Explain with an example.

18. a) Explain with examples how to update and delete existing rows/records in a table.

(OR)

b) Explain GROUP BY clause with its syntax and example.

19. a) Explain PL/SQL scalar data types with examples.

(OR)

b) Explain the DML statements to manipulate data with example.

20. a) Discuss briefly PL/SQL cursors.

(OR)

b) Explain briefly procedures in PL/SQL.

M7/- **********

(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR

2016 ONLY)

(NO.OF PAGES: 2)

16 UIT 309

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

III SEMESTER **TIME: 3 HOURS**

PART – III

CLIENT/SERVER COMPUTING

RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A **(10 X 1 =10 MARKS)**

ANSWER THE FOLLOWING QUESTIONS.

1. The process of moving away from a centralized computer system to a network is _____.

a) downsizing b) upsizing c) grouping d) processing

2. Both the client and the server machines format the display presented to the end user in _____

a) remote presentation b) distributed presentation c) remote data d) distributed data

3. RAID _____ spreads data and parity information across all the drives in an array.

a) 2 b) 3 c) 4 d) 5

4. Performance and optimization in client/server systems involves _____ components.

a) hardware b) software c) network d) overall system

5. The ability of operating system to prevent the circumvention of its security auditing or accounting controls is _____ .

a) Security management b) system integrity

c) Accountability d) client security management

Short Answer.

6. RPC stands for _____.

7. The efficiency of the network information is provided by _____

8. Define mirroring

9. The programs that replicate themselves to destroy data or usurp system resources are called _____

10. Fiber Distributed Data Interface provides _____ bandwidth.

(CONTD … 2)

11. a) What is client/Server?

(OR)

b) Write a note on working with consultants

12. a) Describe the hardware impact of client/server.

(OR)

b) Describe the analysis phase of the client/server.

13. a) Describe Asynchronous batch-oriented communications.

(OR)

b) Describe Print Servers.

14. a) Describe the yearly maintenance tasks.

(OR)

b) Describe the server performance in client/server.

15. a) Explain any two issues influencing the change of IT environment and their effect on security.

(OR)

b) Describe the improvement on networks in client server environment.

SECTION –C (5X8=40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain the benefits of client server.

(OR)

b) Explain the steps involved in building excitement among the end users.

17. a) Explain the application logic capabilities when evaluating tools for development.

(OR)

b) Explain the steps involved in implementation of client/server.

18. a) Explain MOM in detail.

(OR)

b) Explain upgrading file servers in detail.

19. a) Explain maintaining network hardware and software documentation.

(OR)

b) Explain the database performance in client/server in detail

20. a) Explain building a security solution for client/server development.

(OR)

b) Explain the improvements at the client in client/server environment.

M7/- **********

SCHEME OF VALUATION **SET I**

SUBJECT CODE :16UIT309

Course Name : B.Sc., Information Technology Maximum Marks: 75

Semester : III Time: 3 HOURS

16UIT309 – CLIENT/SERVER COMPUTING

SECTION A 10 x 1 = 10

1. a) downsizing

2. b) distributed presentation

3. d) 5

4. d) overall system

5. b) system integrity

Answer in short

6. Remote Procedure Calls

7. A protocol Analyzer

8. Mirroring means supporting two duplicate hard disk drives with a single hard dusk controller.

9. worms

10. 100 Mbps

SECTION B 5 x 5 = 25

11. a) Client/Server is the technology that companies are depending on to transport them into the 21st century . Client/Server is an architecture in which a system's functionality and its processing are divided between the client PC (the front end) – and a database server (the back end). – System functionality – programming logic, business rules and data management is segregated between the client and the server machines – logical and a physical separation exists between the client and the server – A client/server system coordinates the work of both these components and efficiently uses each one's available resources to complete the assigned tasks - with explanation – 5 marks

(OR)

b) Working with consultants – the general qualifications to look for in potential client/server consultants = has client/server programming and development expertise – has full life cycle experience in developing client/server systems – emphasizes business process analysis – able to align technology with business goals – able to discuss issues clearly with management and end users – focuses on properly handling change management issues – provides mentoring services on client/server technology to full time staff - with explanation – 5 marks

12. a) The hardware impact of client/server – The hardware in a client/server environment is considerably different than that in a mainframe environment or in a standard LAN based file server environment – the hardware is often viewed as having to allow more flexibility to be more adaptable – to be just as reliable as your current mainframe system as well as being significantly cheaper – a LAN with GUI clients is not expensive – flexible and scalable – easily replaced – LAN file server development - with explanation - 5 marks

(OR)

b) The analysis phase of the client/server include develop logical data model-define general systems design – locate data prepare external system design.- with explanation – 5 marks

13. a) Asynchronous batch-oriented communications – messages are sent either one at a time or in batches with no expectation of an immediate response – example server database update program uses a data queue facility to send subsets of updated records to PC programs that then update the local client based database - with explanation – 5 marks

(OR)

b) Print Servers – a network print server can enable dozens of work stations to share various types of printers – a network print server may be a dedicated micro computer running print server software only or it may be a piece of software running on the network file server – to speed up the network printing process many network manages often install printers with their own NIC - with explanation 5 marks

14. a) The yearly maintenance tasks – hardware maintenance – the period of time can vary significantly dependent on the equipment to be repaired; the physical location of the equipment and the contract - network operating system support contract usually placed with the vendor of the NOS or the recognized support vendor – server hardware – atleast once a year server hardware should be checked by removing memory and adapter cards – with explanation - 5 marks

(OR)

b) The server performance in client/server – hardware – upgrading server hardware improves the performance of the client/server system that is getting operated – software – database communication processing should be offloaded to the server processor – choosing servers that support symmetric multi processors gains over single processor models – operating system such as windows NT supports multi processors and server performance can be improved by using such technology – with explanation - 5 marks

15. a) The issues influencing the change of IT environment and their effect on security – new technologies such as satellite and mobile communications, portable laptop computers – image processing, multimedia and object-oriented solutions are evident in all industry, banks with shared, automated teller machine networks - more sophisticated users – the open environment – today's security threats –any two issues with explanation – 5 marks

(OR)

b) The improvement on networks in client server environment – the need for more bandwidth towards much greater transmission technologies such as fast Ethernet as a standard for LANs – asynchronous transfer mode (ATM) as a standard for WANs – applications such as multimedia requires extensive bandwidth – companies provide bandwidth on demand - ISDN – with explanation – 5 marks

SECTION C 5 x 8 = 40

16. a) The benefits of client server – A properly designed client/server system provides a company and its employees with numerous benefits – improved information access – increased productivity- automated business processes – powerful reporting capabilities – improved customer services – rapid application development – cost reductions and savings – increased revenue – quick response to the changing market place – with explanation – 8 marks

(OR)

b) The steps involved in building excitement among the end users include conduct demos on a regular basis – highlight end user contributions – be responsive to end user questions – designate an end user liaison to be on the project team – conduct periodic status meetings with end user representatives – send back summaries after interviews . – with detailed explanation– 8 marks

17. a) The application logic capabilities when evaluating tools for development include modularity to handle complexity – roll of transactions – object orientation – ease of integration with other technologies – database and platform independence – capability to provide batch processing - with explanation – 8 marks

(OR)

b) The steps involved in implementation of client/server include - develop back out plan – develop support, maintenance and upgrade procedures – train users – conduct controlled roll out – convert data – provide support – scale up - with explanation – 8 marks

18. a) MOM – Message Oriented Middleware is a class of middleware that operates on the principles of message passing and/or message queuing – MOM generally provides high level services, multi protocol support, and other system management services – infrastructure to support highly reliable, scalable and performance oriented client/server systems in mixed environments – OLTP – electronic mail systems such as lotus, cc:Mail – MOM differs from database middleware in that database middleware vendors expertise and products focus on providing their customers with the integration of data residing in multiple databases throughout the customers enterprise - with explanation 8 marks

(OR)

b) Upgrading file servers – the file server is normally a local area network based PC or UNIX server running a no. of applications and controlling the printing, file sharing and security of the local area network – additional memory required for file server to support the requirements of the client/server system – additional RAM and processor cache – Pentium or Pentium Pro processors – centralized and distributed file servers – dedicated and non-dedicated file servers – with explanation 8 marks

19. a) Maintaining network hardware and software documentation – network documentation is a very important part of a network manager's daily responsibility – new release of a network application should be installed by the network manager - to create and maintain network documentation – if the users network interface card becomes defective, the network manger will refer the network documentation to see when the card was installed – the card serial no, warranty expiration date – if the server gets down the network manager should know the contract type ie 24 hours service contract or an 8-5 contract – with explanation – 8 marks

(OR)

b) The database performance in client/server - two simple rules include minimize network traffic and process data on the fastest, more appropriate box – efficient database design – normalization of the logical database design yields the best performance -efficient index design – indexes can be dropped, added and changed without affecting the database schema or application design -efficient query design – with explanation – 8 marks

20. a) Building a security solution for client/server development – define your requirements based on their availability of tools and techniques for these platforms, taking into consideration the requirements to build the security solutions – secure sign on – client security – security management – secure electronic commerce – system integrity – antivirus protection – accountability – end-to-end security - with explanation - 8 marks

(OR)

b) The improvements at the client in client/server environment – hardware – the client hardware continues to change at a rapid pace – performance escalates while prices plummet - operating system – the application development and programming – move to object orientation and then further to object fabrication – significant growth in low level technical coding - with explanation - 8 marks

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NGM COLLEGE (AUTONOMOUS) **SET - II**

POLLACHI – 641 043.

(For the candidates admitted during the academic years - 2016 – 2017 only)

SUBJECT CODE :16UIT309

Course Name : B.Sc., Information Technology Maximum Marks: 75

Semester : III Time: 3 HOURS

16UIT309 – CLIENT/SERVER COMPUTING

Answer all Questions

SECTION A 10 x 1 = 10

1. The system is allowed to migrate from an old mainframe-based system to a new client/server system in small incremental steps in _____.

a) screen scraping b) downsizing c) upsizing d) processing

2. The Client formats the data and presents it to the end user in _____.

a) distributed presentation b) remote presentation c) remote data d) distributed data

3. The function of _____ is to provide the database engine to the client machines requesting work to be done.

a) centralized file server b) distributed server c) dedicated file server d) database server

4. Performance and optimization in client/server systems involves _____ components.

a) hardware b) software c) network d) overall system

5. The middleware to create a "single system image "of all the services on the network

is _____.

a) NOS b) DFS c) MOM d) RPC

Answer in short

6. Improving the speed of the network interface card will improve the performance of _____

7. The efficiency of the network information is provided by _____

8. Expand RAID

9. The ability of operating system to prevent the circumvention of its security auditing or accounting controls is _____ .

10. The administration, control and audit of the organization's security policy is _____.

SECTION B 5 x 5 = 25

11. a) What is client/Server?

(OR)

b) Describe the situations that lead to the increased utilization of client/server system.

12. a) Describe client/server technology.

(OR)

b) Describe the initial planning in client/server.

13. a) Describe synchronous transaction-oriented communications.

(OR)

b) Describe communications servers.

14. a) Describe the monthly maintenance tasks.

(OR)

b) Describe network performance in client/server.

15. a) Describe the tasks of the security methodology.

(OR)

b) Describe the improvements at the server in client/server environment.

SECTION C 5 x 8 = 40

16. a) Explain the following models :-

i) Distributed Data

ii) Remote Data

(OR)

b) Explain any 4 roles and responsibilities to be clearly defined for the project team.

17. a) Explain the global environment complexity for the developers.

(OR)

b) Explain the steps involved in designing the client/server.

18. a) Explain TP Monitors in detail.

(OR)

b) Explain upgrading networks to client/server.

19. a) Explain maintaining network hardware and software documentation.

(OR)

b) Explain the client performance in client/server in detail.

20. a) Explain the common security requirements for client/server systems.

(OR)

b) Explain the improvements at the client in client/server environment.

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR

2016 ONLY)

(NO.OF PAGES: 2)

16 UIT 3A3

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

III SEMESTER **TIME: 3 HOURS**

PART – III

MICROPROCESSOR & ASSEMBLY LANGUAGE PROGRAMMING

SECTION – A **(10 X 1 =10 MARKS)**

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

1. The other name for symbolic processor is _____ processor.
   a) PROLOG b) Bit – slice
   c) Array d) Vector

2. The instruction 'JUMP' belongs to the _____ addressing mode.
   a) Sequence control flow instructions
   b) Control transfer instructions
   c) Branch instructions
   d) Control transfer and branch instructions

3. The gate that resides in GDT and LDT is
   a) CALL gate b) Interrupt gate
   a) BIOS gate d) Task gate

4. The 16-bit microprocessor of Motorola is
   b) 68000 b) 68020
   c) 68030 d) MC88100
5. The conversion delay in successive approximation of an ADC 0808/0809 is
   a) 100 milliseconds b) 100 microseconds
   d) 50 milliseconds d) 50 microseconds

6. Differentiate microprocessor and microcontroller.
7. What are the status flags available in 8085?
8. List the ASCII instructions.
9. What is Motorola 6845?
10. How many cores do i3, i5, and i7's have?

SECTION – B **(5 X 5 = 25 MARKS)**

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Write a note on vector processors.

(OR)

b) Explain the addressing mode s of 8086.

(CONTD … 2)

12. a) Discuss the various Load instructions.

(OR)

b) Write a ALP program to find the smallest of a set of numbers.

13. a) Write a note on Memory organization.

(OR)

a) Discuss the addressing modes of 80486.

14. a) Write a note on Pentium Pro processor.

(OR)

b) Explain the Alpha and Cyrix processors.

15. a) Explain the i3, i5 and i7 processors.

(OR)

b) Explain the Sample and Hold circuit.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain the pin description of Intel 8086.

(OR)

b) Describe in detail the types of Interrupts.

17. a) Explain the different forms of ADD instruction.

(OR)

b) Explain the different forms of multiply instruction.

18. a) Discuss the register organization of 486 microprocessor.

(OR)

b) Write short notes on the output devices.

19. a) Explain the Pentium microprocessor in detail.

(OR)

b) Write in detail about the MOTOROLA 68000.

20. a) Compare dual and core2duo processors.

(OR)

b) Explain the interfacing of ADC 0808/ ADC 0808 to Intel 8086.

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2015 ONLY)

(NO.OF PAGES: 2)

15 UIT 516

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

V SEMESTER **TIME: 3 HOURS**

PART – III
ADVANCED JAVA PROGRAMMING

SECTION – A **(10 X 1 = 10 MARKS)**

ANSWER ALL QUESTIONS.

1) Which one is a light weight component?

A) Canvas B) JApplet C) JDialog D) JPanel

2) What does EJB stand for?

A) Enterprise J2EE Bean B) Enterprise Java Bean
C) Enterprise Java oBject D) Entity Java oBject

3) Which driver is called as thin-driver in JDBC?

A) Type-1 driver B) Type-2 driver C) Type-3 driver D) Type-4 driver

4) Which of the following method can be used to read binary data stream coming from the client?

A) request.getInputStream() B) response.getInputStream()
C) request.getInputStreamData() D) response.getInputStreamData()

5) What gets printed when the following expression is evaluated? Select the one correct answer.

${(1==2) ? 4 : 5}

A) 1 B) 2 C) 4 D) 5

6) What is PLAF?

7) What are the space saving light weight containers?

8) What is JDBC-ODBC Bridge?

9) What is EL? What is its use?

10) Where is XML HTTP Request object used?

SECTION – B **(5 X 5 = 25 MARKS)**

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Write about the JMENU in detail.

(OR)

a) Explain the new layout managers in detail.

(CONTD … 2)

12. a)Give the advantages of java beans and also explain the Builder Tool.

(OR)

b) Write about the elements of java bean.

13. a) Write a note on the JDBC architecture.

(OR)

b) Explain the Servlet architecture and its life cycle.

14. a) Give an overview of cookies.

(OR)

b) Explain the types of directives in JSP.

15. a) Write a note on JSTL tags.

(OR)

b) What is AJAX? List the pros and cons of ajax.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain the top level swing containers.

(OR)

b) Describe in detail the swing text components.

17. a) Explain the steps to develop a user defined Java beans.

(OR)

b) Discuss in detail the properties of java beans.

18. a) Discuss in detail the JDBC interfaces and classes.

(OR)

b) Write short notes on :

i) Creating an ODBC data source

ii) Querying and updating Database tables.

19. a) Explain in detail the JSP life cycle.

(OR)

b) Discuss the scripting elements in detail with examples.

20. a) Discuss the web application development using Ajax.

(OR)

b) Explain the usage of XML HTTP Request object in detail.

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SECTION – B **5 x 5 = 25**

Answer either (a) OR (b) in each of the following questions

11. a) Describe relationships with example each.

(OR)

b) Write a note on Denormalization.

12. a) List the features of SQL *plus.

(OR)

b) Describe oracle's various table types.

13. a) How to restrict data during retrieval from tables? Explain with example.

(OR)

b) Describe single-row function.

14. a) Explain character data types in PL/SQL.

(OR)

b) Describe while loop statement in PL/SQL.

15. a) Describes the types of exceptions in PL/SQL.

(OR)

b) What is a package? How a package is created?

SECTION – C **5 x 8 = 40**

Answer either (a) OR (b) in each of the following questions

16. a) Explain E-R model in detail.

(OR)

b) Explain the types of dependencies in detail.

17. a) Explain altering an existing table with an example.

(OR)

b) Explain how to define a constraint with the levels with examples.

18. a) Explain sorting with an example.

(OR)

b) Explain built-in group functions in detail.

19. a) Explain PL/SQL block structure in detail.

(OR)

b) Explain SELECT statement in PL/SQL with an example.

20. a) What are the steps involved in managing explicit cursor? Explain.

(OR)

b) How will you apply database triggers? Also mention the type of triggers with example.

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR

2016 ONLY)

(NO.OF PAGES: 2)

16 UIT 309

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

III SEMESTER **TIME: 3 HOURS**

PART – III

CLIENT/SERVER COMPUTING

RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A (10 X 1 =10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

1. The process of moving away from a centralized computer system to a network is _____.
   a) downsizing b) upsizing c) grouping d) processing

2. Both the client and the server machines format the display presented to the end user in _____
   a) remote presentation b) distributed presentation c) remote data d) distributed data

3. RAID _____ spreads data and parity information across all the drives in an array.
   a) 2 b) 3 c) 4 d) 5

4. Performance and optimization in client/server systems involves _____ components.
   a) hardware b) software c) network d) overall system

5. The ability of operating system to prevent the circumvention of its security auditing or accounting controls is _____ .
   a) Security management b) system integrity
   c) Accountability d) client security management

Short Answer.

6. RPC stands for _____.
7. The efficiency of the network information is provided by _____
8. Define mirroring

9. The programs that replicate themselves to destroy data or usurp system resources are called _____

10. Fiber Distributed Data Interface provides _____ bandwidth.

(CONTD … 2)

11. a) What is client/Server?

(OR)

b) Write a note on working with consultants

12. a) Describe the hardware impact of client/server.

(OR)

b) Describe the analysis phase of the client/server.

13. a) Describe Asynchronous batch-oriented communications.

(OR)

b) Describe Print Servers.

14. a) Describe the yearly maintenance tasks.

(OR)

b) Describe the server performance in client/server.

15. a) Explain any two issues influencing the change of IT environment and their effect on security.

(OR)

c) Describe the improvement on networks in client server environment.

SECTION –C **(5X8=40 MARKS)**

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain the benefits of client server.

(OR)

b) Explain the steps involved in building excitement among the end users.

17. a) Explain the application logic capabilities when evaluating tools for development.

(OR)

b) Explain the steps involved in implementation of client/server.

18. a) Explain MOM in detail.

(OR)

b) Explain upgrading file servers in detail.

19. a) Explain maintaining network hardware and software documentation.

(OR)

b) Explain the database performance in client/server in detail

20. a) Explain building a security solution for client/server development.

(OR)

b) Explain the improvements at the client in client/server environment.

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NGM COLLEGE (AUTONOMOUS) **SET - II**

POLLACHI – 641 043.

(For the candidates admitted during the academic years - 2016 – 2017 only)

SUBJECT CODE :16UIT309

Course Name : B.Sc., Information Technology Maximum Marks: 75

Semester : III Time: 3 HOURS

16UIT309 – CLIENT/SERVER COMPUTING

Answer all Questions

SECTION A 10 x 1 = 10

1. The system is allowed to migrate from an old mainframe-based system to a new client/server system in small incremental steps in _____.

a) screen scraping b) downsizing c) upsizing d) processing

2. The Client formats the data and presents it to the end user in _____.

a) distributed presentation b) remote presentation c) remote data d) distributed data

3. The function of _____ is to provide the database engine to the client machines requesting work to be done.

a) centralized file server b) distributed server c) dedicated file server d) database server

4. Performance and optimization in client/server systems involves _____ components.

a) hardware b) software c) network d) overall system

5. The middleware to create a "single system image "of all the services on the network is _____.

a) NOS b) DFS c) MOM d) RPC

Answer in short

6. Improving the speed of the network interface card will improve the performance of _____

7. The efficiency of the network information is provided by _____

8. Expand RAID

9. The ability of operating system to prevent the circumvention of its security auditing or accounting controls is _____ .

10. The administration, control and audit of the organization's security policy is _____.

SECTION B 5 x 5 = 25

11. a) What is client/Server?

(OR)

b) Describe the situations that lead to the increased utilization of client/server system.

12. a) Describe client/server technology.

(OR)

b) Describe the initial planning in client/server.

13. a) Describe synchronous transaction-oriented communications.

(OR)

b) Describe communications servers.

14. a) Describe the monthly maintenance tasks.

(OR)

b) Describe network performance in client/server.

15. a) Describe the tasks of the security methodology.

(OR)

c) Describe the improvements at the server in client/server environment.

SECTION C 5 x 8 = 40

16. a) Explain the following models :-

i) Distributed Data

ii) Remote Data

(OR)

b) Explain any 4 roles and responsibilities to be clearly defined for the project team.

17. a) Explain the global environment complexity for the developers.

(OR)

b) Explain the steps involved in designing the client/server.

18. a) Explain TP Monitors in detail.

(OR)

b) Explain upgrading networks to client/server.

19. a) Explain maintaining network hardware and software documentation.

(OR)

b) Explain the client performance in client/server in detail.

20. a) Explain the common security requirements for client/server systems.

(OR)

b) Explain the improvements at the client in client/server environment.

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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2015 ONLY)

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15 UIT 516

REG.No.

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2017

B.Sc.- I.T **MAXIMUM MARKS: 75**

V SEMESTER **TIME: 3 HOURS**

PART – III
ADVANCED JAVA PROGRAMMING

SECTION – A **(10 X 1 = 10 MARKS)**

ANSWER ALL QUESTIONS.

1) Which one is a light weight component?

A) Canvas B) JApplet C) JDialog D) JPanel

2) What does EJB stand for?

A) Enterprise J2EE Bean B) Enterprise Java Bean
C) Enterprise Java oBject D) Entity Java oBject

3) Which driver is called as thin-driver in JDBC?

A) Type-1 driver B) Type-2 driver C) Type-3 driver D) Type-4 driver

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6) What is PLAF?

7) What are the space saving light weight containers?

8) What is JDBC-ODBC Bridge?

9) What is EL? What is its use?

10) Where is XML HTTP Request object used?

SECTION – B **(5 X 5 = 25 MARKS)**

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Write about the JMENU in detail.

(OR)

a) Explain the new layout managers in detail.

(CONTD … 2)

12. a)Give the advantages of java beans and also explain the Builder Tool.

(OR)

b) Write about the elements of java bean.

13. a) Write a note on the JDBC architecture.

(OR)

b) Explain the Servlet architecture and its life cycle.

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(OR)

b) Explain the types of directives in JSP.

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SECTION – C (5 X 8 = 40 MARKS)

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V SEMESTER **TIME: 3 HOURS**

PART – III
ADVANCED JAVA PROGRAMMING

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SECTION – B **(5 X 5 = 25 MARKS)**

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SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

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20. a) Discuss the web application development using Ajax.

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(NO.OF PAGES: 2)

15 UIT 518

REG.No.

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B.Sc.- I.T **MAXIMUM MARKS: 75**

V SEMESTER **TIME: 3 HOURS**

PART – III
CRYPTOGRAPHY AND NETWORK SECURITY

SECTION-A (10X1=10 MARKS)

ANSWER THE FOLLOWING QUESTIONS
MULTIPLE CHOICE QUESTIONS.

1. The principle of _____ ensures that only the sender and the intended recipient have access to a message.
   a) Confidentiality b) Authentication c) Integrity d) Access control

2. In _____ one bit of plain text is encrypted at a time.
   a) Block Cipher b) Stream Cipher c) Blowfish d) SET

3. In Asymmetric key cryptography, _____ keys are required per communicating party.
   a) 1 b) 2 c) 3 d) 4

4. _____ solves the problem of key exchange.
   a) Passport b) Digital Envelope c) Digital Certificate d) Message Digest

5. SET uses the concept of _____.
   a) Double signature b) Multiple Signature
   c) Single Signature d) Dual Signature

SHORT ANSWERS.

6. Define Cryptography.
7. What is an Algorithm Type?
8. Define Message Digest.
9. Define CA. Who can be a CA?
10. Define SHTTP.

SECTION-B (5X5=25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a) What are the types of attacks? Explain the classification in a common person's view.

(OR)

b) Discuss Plain text and Cipher text.

(CONTD … 2)

12. a) Explain the following: i) Stream Ciphers ii) Block Ciphers

(OR)

b) What is Symmetric key cryptography? What are the problems with it?

13. a) Discuss the history of Asymmetric key Cryptography in brief.

(OR)

b) Compare Symmetric and Asymmetric key Cryptography.

14. a) Write the technical details of Digital Certificate.

(OR)

b) Discuss the concept of Cross Certification.

15. a) Write a note on Static Web Pages.

(OR)

b) How is Security achieved in 3G?

SECTION-C (5X8=40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain in detail the Principles of Security.

(OR)

b) Write in detail about Substitution Techniques.

17. a) Define Algorithm Mode. Illustrate CBC mode and CFB mode with neat diagram.

(OR)

b) Explain in detail DES.

18. a) Discuss in detail RSA algorithm

(OR)

b) Explain in detail Message Digests.

19. a) Write in detail about Digital Certificate Creation.

(OR)

b) Briefly explain PKCS.

20. a) Illustrate the working of Secure Socket Layer.

(OR)

b) Explain in detail Wireless Application Protocol Security.

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