

**(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR**

(NO.OF PAGES: 3)

16 UIT 1A1

2016 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

**PART – III
STATISTICAL METHODS**

SECTION-A

(10X1=10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS.

- 1) Which one is not a measure of Central Tendency?
a) Mean b) Median c) Harmonic Mean d) Arithmetic Progression
- 2) Co-Efficient of Range is
a) $\frac{L-S}{L+S}$ b) $\frac{L+S}{L-S}$ c) $\frac{S+L}{L+S}$ d) $\frac{L+S}{L+L}$
- 3) The Co-Efficient of Correlation
a) has no limits b) can be less than 1 c) can be more than 1 d) Varies between ± 1
- 4) The Classical School of thought on probability assumes that all possible outcomes of an experiment are
a) Equally likely b) Independent c) Mutually exclusive d) Mutually Exclusive and equally likely
- 5) The degrees of freedom for contingency table are on the basis
a) n-1 2) r-1 c) c-1 d) r+1
- 6) Define Weighted Arithmetic Mean.
- 7) State any two uses of Range.
- 8) State the four important types of Correlation.
- 9) What is Permutation ?
- 10) State the difference between Standard Deviation and Standard Error.

SECTION-B

(5X5=25 MARKS)

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

11. a) From the following find out the mean profit.

Profit per shop	100 - 200	200 – 300	300 – 400	400 – 500	500 -600	600 – 700	700 – 800
Number of Shops	10	18	20	26	30	28	18

(Or)

- b) State the merits and demerits of Mode

(CONTD...2)

(2)

(16 UIT 1A1)

12. a) State the purpose of variation and the properties of good measure of variation.

(Or)

b) 10 students of B.Sc [IT] class of a college have obtained the following marks in Statistics out of 100 marks. Calculate the standard deviation.

S.No	1	2	3	4	5	6	7	8	9	10
Marks	5	10	20	25	40	42	45	48	70	80

13. a) Find Karl Pearson's coefficient of correlation from the following data.

Wages	100	101	102	102	100	99	97	98	96	95
Cost of living	98	99	99	97	95	92	95	94	90	91

(Or)

b) Calculate the coefficient of correlation between age of cars and annual maintenance cost.

Age of cars (years)	2	4	6	7	8	10	12
Annual Maintenance cost (Rs)	1600	1500	1800	1900	1700	2100	2000

14. a) A man has 6 friends. In how many ways he can invite one or more of them to a dinner?

(Or)

b) Out of all integers from 1 to 100, an integer is chosen at random. What is the chance that the selected number is not divisible by 7?

15. a) Describe the important properties of a good estimator.

(Or)

b) 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.

(At 5% level of significance the value of χ^2 is 3.841)

SECTION-C

(5X8=40 MARKS)

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

16. a) The frequency distribution of weight in grams of mangoes of a given variety is given below.

Calculate the Arithmetic mean and median.

Weight (in gms)	410-419	420 - 429	430 - 439	440 - 449	450-459	460-469	470-479
No.of Mangoes	14	20	42	54	45	18	7

(Or)

b) Compute the geometric mean of the following series.

Marks	0 - 10	10 - 20	20-30	30 - 40	40 - 50
No.of Students	5	7	15	25	8

17. a) Calculate mean deviation from mean and median for the following data. Also calculate coefficient of mean deviation

X	100	150	200	250	360	490	500	600	671
---	-----	-----	-----	-----	-----	-----	-----	-----	-----

(Or)

(CONTD...3)

(3)

(16 UIT 1A1)

(b) Calculate standard Deviation for the following data.

Class interval	5 - 10	10 – 15	15 -20	20 – 25	25 – 30	30 – 35	35 – 40	40 - 45
Frequency	6	5	15	10	5	4	3	2

18. a) Distinguish clearly between ‘correlation’ and ‘regression’ analysis

(Or)

b) Calculate the two regression equations of X on Y and Y on X from the data given below, taking deviations from actual means of X and Y. Estimate the likely demand when the price is Rs.20

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

19. a) A bag contains 7 red balls and 5 white balls. 4 are drawn at random what is the probability that

(i) all of them are red (ii) two of them are red and two white?

(Or)

b) Two cards are drawn at random from a well-shuffled pack of 52 cards, What is the probability

that: (i) both are aces (ii) Both are red (iii) at least one is an ace

20. a) What is t- distribution? Explain its properties and some of its applications .

(Or)

b) Explain the degrees of freedom in CHI Square Test and the important uses of Chi Square Test.

M7/-

2016 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

**PART – III
PROGRAMMING IN ‘C’**

SECTION-A

(10X1=10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS.

1. C is a _____.
 - a) High level language
 - b) lowlevel language
 - b) Middle level language
 - d) Assembly Language
2. Which of the following statement does not require any condition
 - a) goto
 - b) if else
 - c)while
 - d) do ... while
3. An array is a collection of
 - a) different data types
 - b) same data types
 - c) both A and B
 - d) none of the above
4. Recursion is a process in which a function calls
 - a) itself
 - b)another function
 - c) main()
 - d) none of the above
5. This function is used to detect the end of the file
 - a) feof()
 - b) ferror()
 - c) fputs()
 - d) fgetch()
6. What is the difference between ‘= ‘and ‘==’?
7. Write down the syntax of if else statement?
8. What is a pointer?
9. Which operator decreases the value of a variable?
10. State the types of arguments of the main() function.

SECTION-B

(5X5=25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11. a. Write down the rules for defining the variables.
(Or)
b. What are the unary operators and their uses?

(CONTD...2)

(2)

(16 UIT 101)

12. a. What are the types of i/o functions in C?
(Or)
b. With syntax and a program explain do-while statement.
13. a. Write about the characteristics of array.
(Or)
b. Write a program to convert upper case string to lower case string.
14. a. Define function. State the reasons for using functions.
(Or)
b. How do you declare and initialize the structure?|
15. a. What are the steps involved in file operations?
(Or)
b. Explain the # define DIRECTIVE.

SECTION-C

(5X8=40 MARKS)

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

16. a. Write in detail about C data types.
(Or)
b. Explain C character set.
17. a. Explain in detail if else statements.
(Or)
b. Write in detail about while loop and do while loop.
18. a. Discuss two dimensional array.
(Or)
b. Explain any four string handling method.
19. a. Discuss in detail call by value and call by reference.
(Or)
b. Write a program to copy structure elements from one object to another object.
20. a. Explain command line arguments with example.
(Or)
b. Write about conditional compilation with example.

M7/-

**(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR**

(NO.OF PAGES: 2)

16 UIT 102

2016 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

**PART – III
COMPUTER SYSTEM ARCHITECTURE**

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. A _____ is a set of instructions that specify the operations.
a) Program b) Hardware c) condition d) None
2. There is one register in the computer called _____.
a) Stack pointer b) modifier c) Program counter d) None
3. _____ is used mostly for storing files of data.
a) ASCII b) Magnetic tape c) Peripheral d) None
4. A Procedure employed in most RISC processors is the _____.
a) Delayed branch b) Branch Operation c) Target Buffer d) All of the above
5. Devices that provide backup storage are called _____ memory.
a) Main b) Auxiliary c) Cache d) None
6. Define Interrupt cycle.
7. Define Stack Pointer.
8. Define Peripheral.
9. Define Loop Buffer.
10. Define Multiprogramming.

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Discuss Stored Program Organization.

(OR)

- b) Explain Control flow Chart.

(CONTD...2)

12. a) Short notes on Data transfer Instructions.
(OR)
b) Discuss Reverse Polish Notation.
13. a) Discuss Input/output versus Memory Bus.
(OR)
b) Short notes on CPO-IOP Communication.
14. a) Discuss Arithmetic Pipeline.
(OR)
b) Explain Memory Interleaving.
15. a) Short notes on Associate Memory page table.
(OR)
b) Short notes on Magnetic Disks.

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER 'a' OR 'b' IN EACH OF THE FOLLOWING QUESTIONS.**

16. (a) Explain in detail Instruction Codes.
(OR)
b) Illustrate the Memory Reference instructions.
17. a) Block diagram of General Register Organization.
(OR)
b) Illustrate the Data Transfer and Manipulation.
18. a) Discuss Peripheral Devices with examples.
(OR)
b) Briefly explain DMA Controller.
19. a) Illustrate the RISC Pipeline.
(OR)
b) Briefly explain Array Processors.
20. a) Explain in detail on Memory Hierarchy.
(OR)
b) Discuss in detail about Cache Memory.

M7/-

**(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEARS**

2014 & 2015 ONLY)

(NO.OF PAGES: 3)

2014 BATCH:

14 UIT 03

2015 BATCH:

15 UIT 1A1

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

PART – III

COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS

SECTION-A

(10X1=10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS.

1. If $f(a)$ is positive and $f(b)$ is _____
a) Positive b) Negative c) Zero d) None
2. The error in Simpson's third rule is of the order
a) h b) h^2 c) h^3 d) h^4
3. _____ is used to denote the process to find the values.
a) Interpolation b) Extrapolation c) both d) none
4. Largest Value – Smallest Value =
a) Range b) Mean c) Dispersion d) None
5. When only two variables are considered _____
a) Simple b) Partial c) Multiple d) non linear
6. Define Gauss Jacobi general form.
7. Simpson's 3/8 rule formula?
8. Define Interpolating.
9. Define standard deviation.
10. Define partial correlation.

SECTION-B

(5X5=25 MARKS)

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

11. a) Find a positive root of $x^2x=2$ by the method of regular false position.
(OR)
b) Solve the system of equations by (1) Gauss Elimination method.

(CONTD...2)

(2)

(14 UIT 03 / 15 UIT 1A1)

12. a) Find the first two derivatives of $(x)^{1/3}$ at $x=56$ given the table below.

X	:	50	51	52	53	54	55	56
Y = $(x)^{1/3}$	:	3.6840	3.7084	3.7325	3.7563	3.7708	3.8030	3.8259

(OR)

- b) Evaluate $I = \int_0^1 \frac{1}{1+x} dx$ using trapezoidal Rule Simpsons Rule (1/3 rd)
- | | | | | | | | | |
|---|---|---|-----|-----|-----|-----|-----|-----|
| X | : | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | : | 1 | 0.5 | 1/3 | 1/4 | 1/5 | 1/6 | 1/7 |

13. a) Find the pressure at temperature $t=142^\circ$ given the table.

Temp $^\circ\text{C}$	:	140	150	160	170	180
Pressure kg/cm^2	:	3.685	4.854	6.302	8.076	10.225

(OR)

- b) Solve $Y'' = y + xy'$ given $y(0)=1$, $y'(0)=0$ and find $y(0.1)$ using Taylor's series.

14. a) Find the Median from the following data

Wage (Rs)	:	50	75	100	150	250	Total
No of labours	:	8	14	10	5	3	40

(OR)

- b) Find the Mean Deviation.

X	2	4	6	8	10
F	1	4	6	4	1

15. a) Find the Spearman's Rank correlation coefficient.

X	1	6	3	9	5	2	7	10	8	4
Y	6	8	3	7	2	1	5	9	4	10

(OR)

- b) Are you given the following data.

	X	y
Arithmetic Mean	36	85
Standard deviation	11	8

R between x and y = 0.66

- (i) Find the two regression Equation.

SECTION-C

(5X8=40 MARKS)

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

16. a) Find the positive root of $x^3 - x - 1$ correct 4 decimal places by bisection method.

(OR)

- b) Solve the following system by Gauss seidal

$$10x - 5y - 2z = 3, 4x - 10y + 3z = -3; x + 6y + 10z = -3$$

(CONTD...3)

(3)

(14 UIT 03 / 15 UIT 1A1)

5.2

17. a) Evaluator I = $\int_4^5 \log_e x$ using trapezoidal and Simpson's Rule.

(OR)

- b) Find the first two derivatives of $(x)^{1/3}$ at $x=50$ & $x=56$

18. a) From the following, find the value of $\tan 45^\circ 15'$

x°	:	45	46	47	48	49	50
$\tan x^\circ$	:	1	1.03553	1.07237	1.11061	1.15037	1.19175

(OR)

- b) Obtain the values of y at $x=0.1, 0.2$ using Runge Kutta Method of second order. $y' = -y$ given $y(0)=1$.

19. a) Calculate the mode

Interval:	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16
Frequency:	45	50	65	70	30	25	20	18

(OR)

- b) Calculate standard Deviation.

X	:	4-6	6-8	8-10	10-12	12-14
F	:	10	17	32	21	20

20. a) Find the correlation coefficient.

Aptitude score:	57	58	59	59	60	61	62	64
Productivity Index:	67	68	65	68	72	72	69	71

(OR)

- b) From the following information on values of two variables of x and y find the two regression lines and the correlation coefficient.

$$N=10, \quad \Sigma x=20, \quad \Sigma y=40, \quad \Sigma x^2=240, \quad \Sigma y^2=410, \quad \Sigma xy=200.$$

A7/-

2015 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER – 2016

B.Sc.- INFORMATION TECHNOLOGY MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART – III

MICROPROCESSOR AND ASSEMBLY LANGUAGE PROGRAMMING

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. Single-chip Microcomputer is otherwise known as _____
a). Microprocessor b). Microcontroller c). Mini Computer
d). Macro processor
2. The instruction that moves 8-bit from memory location to accumulator
a). MOV ac, mem b). MOV mem, ac c). MOV ac, data
d). MOV data, ac
3. The interruption of normal program execution of a microprocessor is caused by external events is known as
a). Internal interrupts b). External interrupts

c). Hardware interrupts d). Software interrupts

4. How many bits are there in a quad word?

a). 124-bits b). 256-bits c). 64-bits d). 16-bits

5. The output voltage of Bipolar to unipolar converter varies from

a). 0V to 10V b). 10V to 100V c). 1V to 5V d). 0V to 5V

6. Define General purpose registers.

7. Which instruction is used to rotate the contents of a register?

8. What do you mean by Translation lookaside buffer?

9. Define PC-Relative addressing.

10. What is the use of A/D Converter?

(CONTD...2)

(2)

(15 UIT 3A3)

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a). Explain RISC and CISC processor.

(or)

b). Write a short note on addressing modes of 8086.

12. a). Describe in short Instruction groups.

(or)

b). Give a detailed note on PUSH and POP instructions.

13. a). Write short note on memory organization of 486 microprocessor.

(or)

b). Write a short note on Printers.

14. a). Explain in short Pentium III processors.

(or)

b). Explain the Pin configuration of Motorola 68020.

15. a). Write a short note on the method of interfacing ADC 0808/ADC 0809 to Intel 8086.

(or)

b). Write the assembly program for ADC 0808/ADC0809 with LF 398.

SECTION – C

(5 X 8 = 40 MARKS)

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

16. a). Explain in detail Microprogramming.

(or)

b). Give a detailed note on Register organization of 8086.

17. a). Explain MOV instructions.

(or)

b). Write an assembly program to arrange numbers in ascending order.

18. a). Explain in detail Register organization of 486 microprocessor.

(or)

b). Write a detailed note on CRT display.

19. a). Discuss in detail Pentium Pro microprocessors.

(or)

b). Write a short note on the following of Motorola 68000:

(i). Registers.

(ii). Status Flags.

(iii). Addressing Modes.

20. a). Write in detail about Bipolar to Unipolar Converter.

(or)

b). How will you use a microprocessor to measure and control the temperature of
a device? Explain.

M7/-

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

UG DEGREE COURSES (SF)

MAXIMUM MARKS: 50

III SEMESTER

TIME: 2 HOURS

PART – IV – NON MAJOR ELECTIVE PAPER – 1

COMPUTER FUNDAMENTALS

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. Expand CPU.
a) Central Purpose Unit b) Center processing Unit d) Center publication Unit
d) Center portable Unit
2. Here – Decimal Number System Base is _____.
a) 2 b) 15 c) 10 d) 8
3. Expand ALGOL.
a) Arithmetic Logic b) Arithmetic Language d) Arithmetic Level
d) Arithmetic Literacy
4. Computer memory is used to _____.
a) Store the data and information b) Display the in data & information.
c) Store and restive the data & information d) None of these.
5. Magnetic Disks and Taps are in the _____ memory type.
a) Main b) Auxiliary c) Associative d) Virtual

6. Expand ANSI.
7. Mention the types of Number System.
8. Define Flowchart.
9. What is Data Transfer Rate?
10. Define Secondary Storage Devices.

SECTION - B

(5X8=40 MARKS)

ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS.

11. Discuss the History of computers.
12. Explain the various components of computer.
13. Convert the following Number system.
 - i) $(3210)_{10}$ to Binary.
 - ii) $(19FDE)_{15}$ to Decimal.
14. Explain the Number systems.
15. Explain the Computer Languages.
16. Discuss – Auxillary Memory.
17. Discuss – Cache Memory.
18. Explain – What is secondary storage devices with examples?

A7/-

2015 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

**PART – III
PROGRAMMING IN ‘C’**

SECTION-A

(10X1=10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS.

1. Which iperator is having the top most priority?
a) [] b) () c)→ d) ,
2. The statement which tests only for equality is
a) simple if b) if....else c) switch d) all the above
3. A character string is terminating with ----- character.
a) ‘\r’ b) ‘\0’ c) ‘\s’ d) ‘/0’
4. The Variables which are not defined within the functions are called
a) Global variables b) Local variables
c) User defined variables d) None of the above
5. The preprocessor that is used to display user defined message during compilation of the program.
a) # ifndef b) # error d) # pragma d) None of the above
6. What are keywords?
7. What is the use of sleep function?
8. Distinguish Stricmp() and Strcmp() functions.
9. Define user-defined functions.
10. What are the two types of files? Define them.

SECTION-B

(5X5=25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Write a short note on various flowchart symbols.
(OR)
b) Explain Comma and Conditional operators with proper examples.
(CONTD...2)

12. a) Explain break and continue statements with appropriate example.
(OR)
b) Explain While loop with example.
13. a) Write a short note on:
(i) Strlen ()
(ii) Strcmp ()
(iii) Strstr ()
(OR)
b) Write about void pointers example.
14. a) Explain various parts of a Function prototype statement.
(OR)
b) Write a short note on enumerated data type in C.
15. a) Define the following.
(i) fscanf ()
(ii) getc ()
(iii) putc ()
(iv) fgetc ()
(OR)
b) Discuss the predefined macros in ctype .h.

SECTION-C**(5X8=40 MARKS)****ANSWER EITHER 'a' OR 'b' IN EACH OF THE FOLLOWING QUESTIONS.**

16. a) Write in detail about various Data types in C.
(OR)
b) Give a detailed note on Arithmetic and Relational operators C.
17. a) Write a detailed note on Formatted input, output functions with example program.
(OR)
b) Explain various types of if constructs.
18. a) Explain arrays with an example program.
(OR)
b) Write a short note on:
(i) Pointers to pointers.
(ii) Array of pointers.
19. a) Draw clear note on the following:
(i) Call by value
(ii) Call by reference.
(OR)
b) Write in detail about Structures and Unions.
20. a) Explain in detail the steps for file operations.
(OR)
b) Explain the pragma directive in detail.

2015 ONLY)

15 UIT 307

NGM COLLEGE (AUTONOMOUS) :: POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc. - INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART - III
OPERATING SYSTEMS

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. Chained blocks are-----
 - a. Not contiguous
 - b.contiguous
 - c.block allocation depends up on the o.s
 - d.block allocation depends up on the device
2. -----states that 'No two processes should be allowed to be inside their critical region at the same time'.
 - a. Critical section
 - b.Mutual Exclusion
 - c.Race condition
 - d.Inter Process Communication
3. -----states that 'If there is a deadlock ignore it, pretend as if you are totally unaware of it'.
 - a. Ostrich algorithm
 - b.Banker's Algorithm
 - c.Circular waits
 - d.DRAG
4. -----is tightly coupled system.
 - a. Distributed Processing
 - b.Uniprocessing
 - c.Batch Processing
 - d.Parallel Processing
5. FAT-16, FAT-32 and-----are the three main/significant file system supported by windows
 - a. PAL
 - b. NTFS
 - c. SECAM
 - d. FAT-8

Short Answers:

6. Define: Virtual Machine
7. Define: Starvation
8. Listut the strategies that have been followed by O.S to deal with the problem of Deadlock.
9. Listut any two characteristics of parallel processing.
10. Listut the contents of DDL.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a.Discuss briefly the issue of portability.
(OR)
b.Write short notes on: Virtual Machine

- 12 a. What are basic process states that present in O.S to manage switching between processes? Explain it in brief.
(OR)
b. Write short notes on: The Producer-Consumer problem.
- 13 a. Write short notes on: Banker's Problem.
(OR)
b. Discuss single contiguous memory management.
- 14 a. What are the differences between Distributed and Parallel Processing?
(OR)
b. Discuss the deadlocks in Distributed Systems.
- 15 a. Discuss briefly Window Registry.
(OR)
b. Write short notes on: NTFS.

SECTION – C

(5 X 8 = 40 MARKS)

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

16. a. Discuss the booting process in Detail.
(OR)
b. Discuss briefly file directory Entry and open/close operations.
- 17 a. Elaborate the CPU Scheduling.
(OR)
b. Write an elaborate notes on: Multithreading.
18. a. What are the Deadlock prerequisites? Explain it in Detail.
(OR)
b. Elaborate variable memory partition.
19. a. Elaborate the operating systems for Parallel Processing.
(OR)
b. Discuss briefly process Migration.
20. a. Discuss Memory Management in Windows.
(OR)
b. Explain in detail Native NT API.

M7/-

2015 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.- INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART – III

RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

- 1 A condition that is applied to a particular set of data is commonly termed as _____
a) Integrity Control b) Primary c) Design d) None of these
- 2 Which command is used to delete the records of the entire table?
a) Delete b) Drop c) Truncate d) Destroy
- 3 Which one of the following is not belonging to DML?
a) SELECT b) UPDATE c) DELETE d) Drop
- 4 Which is a join with a join condition containing an equality operator
a) Equi Join b) Non Equi c) Semi Join d) Left Join

- 5 _____ is used to handle errors that occur during execution of PL/SQL program
- a)Exception b) Cursor c) Views d) None of these
- 6 What are constraints?
- 7 What is the use of Spool in Oracle?
- 8 How to retrieve all data in a table?
- 9 Write the oracle command to display the records of two tables together.
10. What are the two types of Cursors?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11 a) Explain Database Management System.

(or)

11.b) Give a write up about Demoralization.

(CONTD ...2)

(2)

(15 UIT 308)

12.a) What is DDL? and write the syntax of DDL Commands.

(or)

12.b) What is the difference between Drop , Truncate and Delete Command ? Explain with example.

13.a) What is the role of Arithmetic Operations in Oracle.

(or)

13.b) Write and explain five numeric functions with syntax.

14.a) What is the Outer Join? Explain with any example.

(or)

14.b) What is Transaction Control Statements? And explain.

15.a) Write attributes of Explicit Cursors.

(or)

15.b) What is Packages? and explain.

SECTION – C

(5 X8 = 40 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

16.a) What are Normal Forms? and explain different Normal forms.

(or)

16 b) Write and explain the Rules of Integrity with example.

17.a) Explain any five datatypes used in Oracle.

(or)

17.b) Write the code for the following.

i) Create a table in the name of employee with ename, date of birth, age, address, salary.

ii) Insert some records into it.

iii) Display all the records.

18.a) Explain the following operators with example.

i) Is Null ii) Between ... And iii) IN iv) Like

(or)

18.b) Explain String and Data functions in Oracle.

19.a) Explain Equi and Non Equi Join with example.

(or)

19.b) What is the purpose of a SELECT statement in PL/SQL block explain with an example.

20.a) Write the actions on Explicit Cursor.

(or)

20.b) How to assign values to Rows in a PL/SQL Table in different ways and explain.

M7/-

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
(AUTONOMOUS) POLLACHI – 642 001
END-OF-SEMESTER SEMESTER EXAMINATIONS –November 2016

B.Sc Information Technology - III Semester
MODERN SYSTEM ANALYSIS AND DESIGN

Duration: 3 Hours

Max. Marks: 75

SECTION - A (10 x 1 = 10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS

Multiple Choice Questions:

1. A _____ helps system users and other business managers define their requirements for new or enhanced information services.
a.programmer b.systems analyst c.system manager d.system supervisor
2. A cost associated with an Information System that cannot be easily measured in terms of dollars is _____.
a.one time cost b.tangible cost c.intangible cost d.recurring cost
3. The _____ symbol stores data at rest.
a.data store b.process c.source d.sink
4. A _____ is a business document that contains only predefined data.
a.form b. database record c.file d.report
5. A testing technique in which the program code is sequentially executed manually by the reviewer is _____.
a.desk checking b.unit testing c.stub testing d.integrated testing
6. Define the term System.
7. What is the work of a scribe in JAD session?
8. What do you mean by an attribute?
9. Define Cohesion.
10. What do you mean by an Internal Documentation?

(CONTD....1)

Short Answers:

SECTION - B (5 x 5 = 25 MARKS)

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

11. a)What are the characteristics of a system?

(OR)

11. b)What is prototyping? Highlight its advantages.

12.a)Write a note on Baseline Project Plan.

(OR)

12. b)Who are the participants in a JAD session?

13. a)What information should be collected for designing physical files and databases?

(OR)

13. b)Explain file organization and list its types.

14. a)What do you mean by usability? What are the usability success factors?

(OR)

14. b) What are the five types of coupling?

15. a)List the seven types of testing.

(OR)

15. b) Write a short note on the factors influencing system maintenance?

SECTION - C (5 x 8 = 40 MARKS)

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

16. a) List the different phases in SDLC .Write down the input, deliverables and output from each phase of SDLC cycle.

(OR)

16. b) What are the criticisms to traditional waterfall SDLC? What are the other different approaches to improve system development?

17. a) List different types of project feasibility factors and explain any one factor in detail.

(OR)

17. b) Explain the traditional methods for determining requirements.

18. a) Write a detailed note on Data Flow Diagrams.

(OR)

18. b Explain E-R modelling with necessary diagrams.

19. a) How will you format forms and reports?

(OR)

19. b) What is cohesion? List its types.

20. a) Define installation. Explain the four different approaches to installation.

(OR)

20. b) Explain how CASE tools automate the entire system life cycle.

******* All the Best *******

2014 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.- INFORMATION TECHNOLOGY MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

PART – III

COMPUTER SYSTEM ARCHITECTURE

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. One byte equals to how many bits?
a) 4 bits b) 8 bits c) 12 bits d) 16 bits
2. RISC stands for
a) Risk Instruction Software Computing
b) Reduced Instruction Set Computing
c) Risk Instruction Set Computer
d) None of the above
3. Input/Output Processor has direct access to
a) Main memory b) Virtual memory c) Cache memory d) Associated memory
4. AR stands for
a) Address Register b) Accumulator register c) Address Reference
d) Accumulator Reference.
5. Which is used for high speed buffer storage?
a) Main memory b) Virtual memory c) Cache memory d) Associated memory
6. What is an Instruction Code?

7. What are the two operations of stack?
8. Write a note about peripheral.
9. Define pipeline.
10. Give an example for auxiliary memory.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a. Explain basic Computer Instruction Formats.
(or)
b. Explain Memory Reference Instruction

(CONTD...2)

(2)

(14 UIT 02)

12. a. Write in detail about Instruction formats.
(or)
b. What are the different types of interrupts? Explain.

13. a. Write about the functions of different peripheral devices.
(or)
b. Explain Input Output Processor. (IOP)

14. a. Write in detail about Parallel Processing.
(or)
b. Explain RISC Pipeline.

15. a. Write about Memory Hierarchy..
(or)
b. Write about Virtual Memory.

SECTION – B

(5 X 5 = 25 MARKS)

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

16. a. Explain in detail basic Computer Registers with a neat diagram.

(or)

b. Discuss Input-Output and Interrupt of the basic computer organization.

17. a. Explain General Register Organisation with a neat diagram.

(or)

b. Discuss Data transfer and Manipulation.

18. a. Explain in detail Asynchronous Data Transfer.

(or)

b. Draw a block diagram and explain in detail DMA.

19. a. What are different types of pipelining? Explain.

(or)

b. Explain the following :

i) Vector Pipelining

ii) Array Pipelining

20. a. Explain in detail Main Memory.

(or)

b. Explain in detail Cache Memory.

M7/-

**(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEARS**

2014 & 2015 ONLY)

(NO.OF PAGES: 3)

2014 BATCH:

14 UIT 03

2015 BATCH:

15 UIT 1A1

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

I SEMESTER

TIME: 3 HOURS

PART – III

COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS

SECTION-A

(10X1=10 MARKS)

ANSWER ALL OF THE FOLLOWING QUESTIONS.

1. If $f(a)$ is positive and $f(b)$ is _____
a) Positive b) Negative c) Zero d) None
2. The error in Simpson's third rule is of the order
a) h b) h^2 c) h^3 d) h^4
3. _____ is used to denote the process to find the values.
a) Interpolation b) Extrapolation c) both d) none
4. Largest Value – Smallest Value =
a) Range b) Mean c) Dispersion d) None
5. When only two variables are considered _____
a) Simple b) Partial c) Multiple d) non linear
6. Define Gauss Jacobi general form.
7. Simpson's 3/8 rule formula?
8. Define Interpolating.
9. Define standard deviation.
10. Define partial correlation.

SECTION-B

(5X5=25 MARKS)

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

11. a) Find a positive root of $x^2x=2$ by the method of regular false position.
(OR)
b) Solve the system of equations by (1) Gauss Elimination method.

(CONTD...2)

(2)

(14 UIT 03 / 15 UIT 1A1)

12. a) Find the first tow derivatives of $(x)^{1/3}$ at $x=56$ given the table below.

X	:	50	51	52	53	54	55	56
Y = $(x)^{1/3}$	:	3.6840	3.7084	3.7325	3.7563	3.7708	3.8030	3.8259

(OR)

- b) Evaluate $I = \int_0^1 \frac{1}{1+x} dx$ using trapezoidal Rule Simpsons Rule (1/3 rd)
- | | | | | | | | | |
|---|---|---|-----|-----|-----|-----|-----|-----|
| X | : | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Y | : | 1 | 0.5 | 1/3 | 1/4 | 1/5 | 1/6 | 1/7 |

13. a) Find the pressure at temperature $t=142^0$ given the table.

Temp 0C	:	140	150	160	170	180
Pressure kg/cm^2	:	3.685	4.854	6.302	8.076	10.225

(OR)

- b) Solve $Y^{11} = y + xy^1$ given $y(0)=1$, $y^1(0)=0$ and find $y(0.1)$ using taylors series.

14. a) Find the Median from the following data

Wage (Rs)	:	50	75	100	150	250	Total
No of labours	:	8	14	10	5	3	40

(OR)

- b) Find the Mean Deviation.

X	2	4	6	8	10
F	1	4	6	4	1

- 15 a) Find the Spears man's Rank correlation coefficient.

X	1	6	3	9	5	2	7	10	8	4
Y	6	8	3	7	2	1	5	9	4	10

(OR)

- b) Are you given the following data.

	X	y
Arithmetic Mean	36	85
Standard derivation	11	8

R between x and y = 0.66

- (i) Find the two regression Equation.

SECTION-C

(5X8=40 MARKS)

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

16. a) Find the positive root of $x^3 - x - 1$ correct 4 decimal places by bisection method.

(OR)

- b) Solve the following system by Gauss seidal

$$10x - 5y - 2z = 3, 4x - 10y + 3z = -3; x + 6y + 10z = -3$$

(CONTD...3)

(3)

(14 UIT 03 / 15 UIT 1A1)

5.2

17. a) Evaluator I = $\int_4^5 \log_e x$ using trapezoidal and Simpson's Rule.

(OR)

- b) Find the first two derivatives of $(x)^{1/3}$ at $x=50$ & $x=56$

18. a) From the following, find the value of $\tan 45^\circ 15'$

x°	:	45	46	47	48	49	50
$\tan x^\circ$	:	1	1.03553	1.07237	1.11061	1.15037	1.19175

(OR)

- b) Obtain the values of y at $x=0.1, 0.2$ using Runge Kutta Method of second order. $y' = -y$ given $y(0)=1$.

19. a) Calculate the mode

Interval:	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16
Frequency:	45	50	65	70	30	25	20	18

(OR)

- b) Calculate standard Deviation.

X	:	4-6	6-8	8-10	10-12	12-14
F	:	10	17	32	21	20

20. a) Find the correlation coefficient.

Aptitude score:	57	58	59	59	60	61	62	64
Productivity Index:	67	68	65	68	72	72	69	71

(OR)

- b) From the following information on values of two variables of x and y find the two regression lines and the correlation coefficient.

$$N=10, \quad \Sigma x=20, \quad \Sigma y=40, \quad \Sigma x^2=240, \quad \Sigma y^2=410, \quad \Sigma xy=200.$$

A7/-

2013 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART – III
RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. A non – key column is dependent on part of the primary key is known as -----
a) Full dependency b) partial dependency c) Transitive dependency
d) Total dependency
2. ----- enforce rules on tables.
a) Constraints b) Primary key c) Foreign key d) None
3. ----- is a DML statement.
a) Create b) alter c) modify d) update
4. ----- function is used to find next day from the given date.
a) Next day b) Last day c) Add month d) Next time
5. ----- function removes one element from end of the table.
a) Trim b) Extend c) Prior d) Trim (n)
6. What is a cursor?
7. What command is used to rename a table?
8. What is a self – join?
9. What is a bind variable?
10. What is meant by exception?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Briefly explain the types of dependencies.
(OR)
b) Explain the categories of Relationship.
12. a) Write short notes on data types in oracle.
(OR)
b) What are the options available in altering an existing table?

(2)

(14 UIT 10)

13. a) Briefly explain on customized prompts & column Alias.
(OR)
b) Write short notes on sorting the data in SQL table with example.
14. a) Write short notes on set operations with example?
(OR)
c) Briefly explain about the PL/SQL block structure.
- 15.) a) What is a cursor? Write about the types of cursors.
(OR)
d) Describe PL/SQL Records with example.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

- 16) a) Explain the nine operations that can be performed using relational algebra?
(OR)
b) Explain in detail Normalization with example.
- 17) a) Explain the client /server database and its features in detail.
(OR)
b) Explain in detail the constraints, its types, defining and naming the constraints.
- 18) a) Discuss character functions in detail with example.
(OR)
b) Discuss Numeric functions in detail with example.
- 19) a) Explain in detail types of joins with example.
(OR)
b) Explain in detail control structures in PL/SQL with example.
- 20) a) Explain in detail Exception Handling with example.
(OR)
b) Write detailed notes on triggers in PL /SQL.

**(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR
2014 ONLY)**

(NO.OF PAGES: 2)

14 UIT 11

NGM COLLEGE (AUTONOMOUS) :: POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART – III

MODERN SYSTEM ANALYSIS AND DESIGN

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. CAD means
 - a) Computer application Design
 - b) Computer Aided Design
 - c) Computer Analysis Design
 - d) Computer applied Design

2. The purpose of assessing ----- feasibility is to identify the financial benefits and costs associated with the development project.
 - a) Economic
 - b) Technical
 - c) Scheduling
 - d) Political

3. The lowest level of DFD is called as ----- DFD
 - a) low level
 - b) high level
 - c) Primitive
 - d) level – n

4. Append means
- a) Losing characters from a field b) adding additional characters to a field
- c) Entering invalid data into a field c) reversing the sequence.
5. The process of moving from the current information system to the new one is called -----
- a) Maintenance b) Installation c) Analysis d) Design
6. Define tangible cost.
7. Define open – ended Questions.
8. Write and draw DFD symbol.
9. Write some benefits of using color in forms
10. Define Adaptive maintenance.

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Explain the types of Information systems.

(OR)

- b) Explain the Interpersonal skills.

(CONTD.....2)

(2)

(14 UIT 11)

12. a) Describe project feasibility factors.

(OR)

- b) Give some details about Radical methods.

13. a) Describe Data flow Definitions and symbols

(OR)

b) Discuss E-R modeling.

14. a) Explain Designing Dialogues

(OR)

b) Write short notes on five types of coupling.

15. a) Describe Types of S/W application testing.

(OR)

b) Explain different types of Installation.

SECTION – C

(5 X 8 = 40 MARKS)

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

16. a) Briefly describe SDLC.

(OR)

b) Define system and its characteristics.

17. a) Explain Baseline project plan.

(OR)

b) Write brief notes on Traditional methods for Determining Requirements.

18. a) Explain the Data flow Diagramming in the analysis process.

(OR)

b) Describe conceptual Data modeling and the E-R model.

19. a) Briefly explain Formatting forms and reports

(OR)

b) Describe Transform analysis.

20. a) Write about the types of maintenance.

(OR)

b) Explain components of case.

♣♣♣♣♣♣♣

A7/.

14 UIT: 20

2014 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-INFORMATION TECHNOLOGY MAXIMUM MARKS: 75

V SEMESTER

TIME: 3 HOURS

PART – III

ADVANCED JAVA PROGRAMMING

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. The _____ is a set of classes that provide more powerful and flexible components compared with the AWT.
 - a) Java Bean
 - b) Java Swing
 - c) HTTP
 - d) JDBC
2. _____ enables beans to save and restore their state.
 - a) Serialization
 - b) Listener bean
 - c) Persistence
 - d) Source bean
3. The _____ API is the API for connectivity with relational database systems.
 - a) JMS
 - b) JDBC
 - c) Java IDL
 - d) RMI
4. _____ is a dynamic scripting capability for web pages that allow Java as well as a few special tags.
 - a) ASP
 - b) JSP
 - c) BDK
 - d) J2EE
5. Expand JSTL.
 - a) Java Starting Tag Library
 - b) Java Servlet pages smart Tag Library
 - c) Java Server Pages Standard Tag Library
 - d) Java Smart pages servlet Tag Library
6. What is Java Swing?
7. What is Manifest Files?
8. Write any one difference between JDBC and ODBC .
9. What is a JSP Page?
10. Expand JSTL

(CONTD2)

(2)

(14 UIT 20)

SECTION – B

(5 X 5 = 25 MARKS)

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

11. (a) Describe the structure of a swing application.
(OR)
11. (b) Describe the swing Text Fields constructor with example.
12. (a) What is meant by java beans? Write the advantages of JAVA Beans.
(OR)
12. (b) Discuss the requirements of bean-managed persistence.
13. (a) What is a java Servlet? Explain.
(OR)
13. (b) Explain how to handle GET Requests in servlet with example.
14. (a) Explain briefly the JSP declarations and expression with the syntax.
(OR)
14. (b) How can you set a cookie in JSP? Explain.
15. (a) Explain the role of Ajax in enhancing the user experience on the web.
(OR)
15. (b) Explain request/Response in an Ajax with example code.

SECTION – B

(5 X 8 = 40 MARKS)

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

16. (a) Explain the swing container and JComponent class in detail.
(OR)
16. (b) Discuss the layout manages and menu components in swing.
17. (a) Explain how to creating a JAR File and JAR Command Options.
(OR)
17. (b) What are the things which should be kept in mind while building a bean? Explain in detail.
18. (a) Explain the different types of JDBC Drivers.
(OR)
18. (b) Describe the steps needed to execute an SQL query using JDBC with example.
19. (a) Explain the following:
(i). JSP scripting elements
(ii).HTTP request object
(OR)
19. (b) How can JSP work with HTML forms? Explain with example tags.
20. (a) Discuss how AJAX used on web application developments.
(OR)
20. (b) Explain the following:
(i). JSTL tags
(ii). Benefits of AJAX

M7/-

ADVANCED JAVA PROGRAMMING
SUB CODE : 14UIT20

SECTION – A (10 * 1 = 10 Marks)

- 1.b). Java Swing
- 2.c). Persistence
- 3.b).JDBC
- 4.b).JSP
- 5.c). Java Server Pages Standard Tag Library
6. The java Swing is a set of classes that provides more powerful and flexible components compared with the AWT. In addition to the familiar components, such as buttons, check boxes and labels, Swing supplies several exciting additions, including tabbed panes, scroll panes, trees and tables
7. While developing Java Beans, a developer must provide a manifest file to indicate which of the components in a JAR file Java Beans are. A manifest file may reference several .class
8. Difference in JDBC and ODBC: a) ODBC is for Microsoft and JDBC is for Java applications. b) ODBC can't be directly used with Java because it uses a C interface. c) ODBC makes use of pointers which have been removed totally from Java. (Any one difference)
9. A JSP page is a text document that contains two types of text: static data, which can be expressed in any text-based format (such as HTML, SVG, WML, and XML), and JSP elements, which construct dynamic content
10. Java Server Pages Standard Tag Library

PART – B (5 * 5 = 25 Marks)

Answer the following

11. (a) Structure of a swing application – example code – explanations – 5 Marks
(OR)
11. (b) The Swing text field is encapsulated by the JTextComponent class, which extends JComponent. It provides functionality that is common to Swing text components. One of its subclasses is JTextField, which allows you to edit one line of text. Some of its constructors are
JTextField()
JTextField(intcols)
JTextField(String s, intcols)
JTextField(String s) - 5 Marks

12. (a) A Java Bean is a software component that has been designed to be reusable in a variety of different environments. There is no restriction on the capability of a Bean. It may perform a simple function, such as checking the spelling of a document, or a complex function, such as forecasting the performance of a stock portfolio (2 Marks)
- Advantages of Java Beans:
- A Bean obtains all the benefits of Java's "write-once, run-anywhere" paradigm.
 - The properties, events, and methods of a Bean that are exposed to an application builder tool can be controlled.
 - A Bean may be designed to operate correctly in different locales, which makes it useful in global markets.
 - Auxiliary software can be provided to help a person configure a Bean. This software is only needed when the design-time parameters for that component are being set. It does not need to be included in the run-time environment.
 - The configuration settings of a Bean can be saved in persistent storage and restored at a later time.
 - A Bean may register to receive events from other objects and can generate events that are sent to other objects – 3 Marks
- (OR)
12. (b) Bean-managed persistence has these requirements:
- The class is defined as public.
 - The class cannot be defined as abstract or final.
 - It contains an empty constructor.
- Explanations – 5 Marks
13. (a) Servlets are Java technology's answer to CGI programming. They are programs that run on a Web server and build Web pages.
- A **servlet** is a Java programming language class that is used to extend the capabilities of servers that host applications accessed by means of a request-response programming model. Although servlets can respond to any type of request, they are commonly used to extend the applications hosted by web servers. For such applications, Java Servlet technology defines HTTP-specific servlet classes - Explanations – 5 Marks
- (OR)
13. (b) Handling GET Requests - Handling GET requests involves overriding the doGet method- The servlet extends the HttpServlet class and overrides the doGet method. Within the doGet method, the getParameter method gets the servlet's expected argument – 5 Marks
14. (a) **Declarations:** A JSP declaration is used to declare variables and methods in a page's scripting language. The syntax for a declaration: `<%! scripting language declaration %>`
Expressions: A JSP expression is used to insert the value of a scripting language expression, converted into a string, into the data stream returned to the client
 The syntax for an expression: `<%= scripting language expression %>` – 5 Marks
- (OR)
14. (b) `response.setHeader("Set-Cookie", "cookie string");` To give the response-object to a bean, write a method `setResponse (HttpServletResponse response)` - to the bean, and in jsp-file: `<% bean.setResponse (response); %>` - explanations - 5 Marks
15. (a) Role of Ajax in enhancing the user experience on the web – explanations – 5 Marks
- (OR)
15. (b) Request/Response in an Ajax: XMLHttpRequest object creation - basic request/response model with Ajax – explanations – 5 Marks

Answer the following

16. (a) swing container and JComponent class- any two component class – properties – construction – example – explanations – 8 Marks

(OR)

16. (b) Layout managers – A layout manager is an object that is used to organize components in a container - it provides the java.awt package- no subclasses –description - Explanation
Menus - it provides the java.awt package - no subclasses–description- Explanation

17. (a) The following command creates a JAR file named Xyz.jar that contains all of the .class and .gif files in the current directory:

```
jar cf Xyz.jar *.class *.gif
```

If a manifest file such as Yxz.mf is available, it can be used with the following command:

```
jar cfm Xyz.jar Yxz.mf *.class *.gif
```

JAR Command Options – Description – explanations -8 Marks

(OR)

17. (b) To build a bean for a particular use lot of requirements that has to be kept in mind is listed below:
- The bean class should be coded with all the business logic's.
 - The two interfaces i.e. home and component should be coded.
 - An XML deployment descriptor should be created to manage the beans in the server.
 - The component of the interfaces and other files has to be kept in ejb-jar file. That is an archive file used to store the collection of files that uses the interface data or the data that is required to be present on the server.
 - The beans should be deployed on the server. These allow easy access to it and maintainability allow it to be maintained on the server for other purpose and uses
- Explanations – 8 Marks

18. (a) There are 4 types of JDBC drivers.
- JDBC-ODBC Bridge Driver(Type-1 driver)
 - Native API Partly Java Driver(Type-2 driver)
 - Net protocol pure Java Driver(Type-3 driver)
 - Native protocol Pure Java Driver(Type-4 driver)

Explanations– 8 Marks

(OR)

18. (b) JDBC is java based API for accessing data from the relational databases. JDBC provides a set of classes and interfaces for doing various database operations.

The steps are:

- Register/load the jdbc driver with the driver manager.
- Establish the connection thru DriverManager.getConnection();

- Fire a SQL thru conn.executeStatement();
- Fetch the results in a result set
- Process the results
- Close statement/result set and connection object Example - explanations– 8 Marks

19. (a) (i). JSP scripting elements - JSP scripting elements lets to insert Java code into the servlet that will be generated from the current JSP page. There are three forms: a) Expressions of the form `<%= expression %>` that are evaluated and inserted into the output, b) Scriptlets

of the form that are inserted into the servlet's service method, and c) Declarations of the form `<%! Code %>` that are inserted into the body of the servlet class, outside of any existing methods -4 Marks

(ii). HTTP request object - browser generates HTTP request to the appropriate web server - handle these request at server side – explanations – 4 Marks

(OR)

19. (b) Working with HTML forms - Syntax – tags and attributes - example JSP code - program – explanations – 8 Marks

20. (a) AJAX used on web application developments – explanations – 8 Marks

(OR)

20. (b) (i). JSTL tags - JSTL has tags such as iterators and conditionals for handling flow control, tags for manipulating XML documents, internationalization tags, tags for accessing databases using SQL, and commonly used functions – 4 Marks

(ii). Benefits of AJAX - Benefits of AJAX - enhancing the user experience - rich Internet application – web application development – explanation -4 Marks

2014 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

V SEMESTER

TIME: 3 HOURS

PART – III

ELECTIVE-I: CRYPTOGRAPHY AND NETWORK SECURITY

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. What principle ensures that sender and receiver only can access their message content?
a. Confidentiality b. Authentication c. Integrity d. Access Control
2. In which cipher, a plain text is encrypted one bit at a time?
a. Block cipher b. Stream cipher c. Bit cipher d. Byte cipher
3. What is another term used for asymmetric key cryptography?
a. Public key cryptography b. Private key cryptography
c. Senders key cryptography d. Receivers key cryptography
4. Which authority is a trusted agency to issue digital certificates?
a. Digital authority b. Cyber authority c. Private authority
d. Certification authority
5. What protocol is for secure exchange of information between a web browser and a web server?
a. Secure Session Layer b. Information Secure Layer
c. Secure Socket Layer d. Information Socket Layer
6. How do worm differ from virus?
7. Define Block cipher.
8. What for is cyclic redundancy check used?
9. Expand OCSP.
10. What is the format of handshake protocol messages?

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Explain the necessity of computer application security.
(OR)
11. b) Write a note on plain text and cipher text.

(CONTD ...2)

12. a) Explain symmetric key cryptography.
(OR)
12. b) What are the basic principles of RC5?
13. a) Describe the history of asymmetric key cryptography.
(OR)
13. b) List the significance of a message authentication code.
14. a) What are the contents of a digital certificate?
(OR)
14. b) Explain the various formats of certificate revocation list.
15. a) Write a note on static and dynamic web page.
(OR)
15. b) Compare secure socket layer and secure electronic transfer.

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.**

16. a) Explain the principles related to security.
(OR)
16. b) Describe encryption and decryption.
17. a) Explain the four categories of algorithm models.
(OR)
17. b) Elaborate Blow fish operations.
18. a) Write detailed note on RSA algorithm.
(OR)
18. b) Explain digital signature techniques.
19. a) List and describe various fields in X.509 digital certificate.
(OR)
19. b) Explain the mechanisms for protecting private keys.
20. a) Describe how time stamping protocol works.
(OR)
20. b) Elaborate steps of privacy enhanced mail and pretty good privacy.

M7/-

N.G.M. COLLEGE (AUTONOMOUS): POLLACHI

END-OF-SEMESTER EXAMINATIONS: MAY / NOVEMBER – 2016

COURSE NAME: BSc INFORMATION TECHNOLOGY
SEMESTER: VMAXIMUM MARKS: 75
TIME: 3 HOURSPART – III
CRYPTOGRAPHY AND NETWORK SECURITY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER ALL THE FOLLOWING QUESTIONS.

1. What mechanisms help establish proof of identities?
a. Confidentiality b. Authentication c. Integrity d. Access Control
2. Which uses both diffusion and confusion for encryption?
a. IDEA b. DES c. CBC d. CFB
3. What is the expansion of CRC?
a. Cyclic Response Check b. Cyclic Recursion Check
c. Cyclic Replication Check d. Cyclic Redundancy Check
4. Which is the primary means of checking status of a digital certificate offline?
a. certificate revocation list b. certificate revocation check
c. certificate signature list d. certificate signature check
5. In which layer connection between client and server are encrypted?
a. Secure Session Layer b. Information Secure Layer
c. Secure Socket Layer d. Information Socket Layer
6. Define steganography.
7. How block cipher differs from stream cipher?
8. What is the fundamental idea behind Hash based Message Authentication Code?
9. Expand PKCS.
10. What is the format of alert protocol message?

SECTION – B (5 X 5 = 25 MARKS)

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

- 11.a) List and explain various security approaches. (OR)
- 11.b) Write note on the possible types of attacks.
- 12.a) Explain the conceptual working of DES. (OR)
- 12.b) What are the steps of one round in RC5?
- 13.a) Compare symmetric and asymmetric key cryptography. (OR)
- 13.b) Write an overview on knapsack algorithm.
- 14.a) List the similarities between passport entry and corresponding digital certificate entry. (OR)
- 14.b) Describe various steps for digital certificate verification.
- 15.a) Write note on SSL handshake protocol message types. (OR)
- 15.b) Describe the types of electronic money.

SECTION – C (5 X 8 = 40 MARKS)

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

- 16.a) Explain passive attack and active attack. (OR)
- 16.b) Describe Diffie-Hellman key exchange/agreement algorithm.
- 17.a) Elaborate on broad level steps in IDEA. (OR)
- 17.b) Explain four steps involved in Advanced Encryption Standard round.
- 18.a) Write detailed note on Secure Hash Algorithm(SHA). (OR)

- 18.b) Explain how Hash based Message Authentication Code work?
- 19.a) List and describe various digital certificate creation steps. (OR)
- 19.b) Explain the classifications of PKIX architectural model.
- 20.a) Describe the secure electronic transaction participants. (OR)
- 20.b) Elaborate on wireless application protocol security.

2013 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

III SEMESTER

TIME: 3 HOURS

PART – III
RELATIONAL DATABASE MANAGEMENT SYSTEM

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. Define Integrity Rules.
2. What is DE – Normalization?
3. Define NULL value constraint.
4. What command is used to rename a Table?
5. Give syntax for case structure.
6. State any two DML commands.
7. What is Bind variable?
8. What is self – Join?
9. Define cursor.
10. What is V – Array?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

11. a) Briefly explain the types of Dependencies.
(OR)
b) Explain the categories of Relationships.
12. a) Write short notes on Data Types in Oracle.
(OR)
b) What are the options available in altering an existing table? – Discuss.
13. a) Discuss – customized prompts and column Alias.
(OR)
b) Write notes on sorting the Data in SQL Table.

(CONTD...2)

(2)

(13 UIT 10)

14. a) Write notes on set operations.
(OR)
b) Discuss – PL/ SQL Block structure.
15. a) Define cursor, and discuss types of cursor
(OR)
b) Describe PL / SQL Records with example.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER ‘a’ OR ‘b’ IN EACH OF THE FOLLOWING QUESTIONS.

16. a) Explain the operations of Relational Algebra
(OR)
b) Explain in detail Normalization.
17. a) Write detailed notes on client / server Database.
(OR)
b) Explain in detail constraints.
18. a) Discuss – Character Functions.
(OR)
b) Discuss – Numeric Functions.
19. a) Discuss – Types of Joins with example.
(OR)
b) Explain in detail control structures in PL / SQL.
20. a) How to Handle Exceptions? – Discuss.
(OR)
b) Write detail notes on Triggers in PL / SQL.

A7/-

2013 ONLY)

NGM COLLEGE (AUTONOMOUS) : POLLACHI

END – OF – SEMESTER EXAMINATIONS : NOVEMBER - 2016

B.Sc.-

INFORMATION TECHNOLOGY

MAXIMUM MARKS: 75

V SEMESTER

TIME: 3 HOURS

PART – III

ELECTIVE-I: ADVANCED COMPUTER NETWORKS

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER ALL QUESTIONS.

1. What are the two layers not involved in TCP/IP?
2. Give the two layers involved in transport layer protocols.
3. List out the two schemes which are in an email privacy.
4. The TELENT protocol allows login services.
5. Bring the list of security models available in networks.
6. Define cryptography.
7. What are the objects that are in Blowfish security?
8. What is the others name of Asymmetric key cryptography?
9. A ----- is a trusted agency that can issue digital certificates.
10. What are the two useful utilities available in Java programming environment?

SECTION – B

(5 X 5 = 25 MARKS)

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

11. a) Discuss datagram fragmentation.
(OR)
b) Briefly explain the features of TCP.

(CONTD...2)

(2)

(13 UIT 22)

12. a) Write short notes on FTP connections.
(OR)
b) Describe the http commands.
13. a) List out and explain any five principles of security.
(OR)
b) Explain the encryption & decryption methods in security.
14. a) What are algorithm types using in security? Explain.
(OR)
b) Write the RSA algorithm.
15. a) Discuss certificate types.
(OR)
b) Write short notes on.
(i) XML Encryption (ii) XML digital signature.

SECTION – C

(5 X 8 = 40 MARKS)

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

16. a) Explain the TCP/IP example.
(OR)
b) Explain the following.
(I) Points & Sockets (ii) TCP packet format.
17. a) Explain in detail the domain name system.
(OR)
b) How does html support in the web? Explain.
18. a) Bring the list of attacks in networks ? Explain it.
(OR)
b) What are the substitution techniques available in security? Explain any four.
19. a) Explain the following algorithms.
(i) RC4 (ii) RC5
(OR)
b) Discuss MD5 Algorithm.
20. a) Explain the digital certificates.
(OR)
b) Explain any five public key cryptography standards.
