MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
B.C.A DEGREE EXAMINATINS APRIL – 2018
CLASS & GROUP : B.C.A

TITLE : COMPUTING ENVIRONMENT (084CS1M02)

Time: 03 Hrs. 26/AN SEMESTER – I Max Marks: 100

PART – A

Answer all the questions (10 X 2 = 20)

1. What is a manual page in UNIX?
2. Write the main features of UNIX.
3. What is pwd?
4. List any two file handing commands in UNIX.
5. Write the use of references in MS Word.
6. What are header and footer in MS Word?
7. What are the steps to insert formula in a cell?
8. Write the use of wrap text in MS Excel.
9. List any four web browsers.
10. What is internet addressing?

PART – B

Answer any five questions (5 X 8 = 40)

11. Compare UNIX with other operating systems.
12. Discuss the various general purpose utilities commands.
13. Write a short note on shell programming.
14. Discuss how to use symbols, pictures, bullets and numbers in MS Word.
15. Write the uses of conditional formatting in MS Excel.
16. List any five mathematical built in functions in MS Excel.
17. Discuss the various slide transition in MS Power Point.
18. Explain the various modes of connecting to the Internet.

PART – C

Answer any two questions (2 X 20 = 40)

19. Discuss the features of UNIX and draw the architecture.
20. Write the procedure to generate a mail merge in MS Word.
21. Write short notes on: (a) Organization Chart (b) Modem & Email.

MADRAS CHRISTIAN COLLEGE (Autonomous)
B.C.A. Degree Examination April 2018
Allied Mathematics I

Time: 3 Hours **Semester : I** **Max: 100 Marks**

Section A (10 x 2 = 20 marks)

Answer All Questions

1. Find the rank of the matrix $\begin{pmatrix} 4 & 5 & 6 \\ 8 & 10 & 12 \\ 1 & -3 & -4 \end{pmatrix}$.

2. State Cayley Hamilton theorem.

3. Form a quadratic equation one of whose roots is $2+3i$.

4. If α, β, γ are the roots of $x^3+6x+7=0$, Find the value of $\sum\alpha^2$.

5. If $x\cos y + y = x^2$, Find $\frac{dy}{dx}$.

6. Find the nth derivative of e^{-5x}.

7. Evaluate $\int \frac{dx}{\sqrt{x^2+2x+2}}$.

8. Evaluate $\int x\sin 2x dx$.

9. Form a differential equation by eliminating the arbitrary constant a, b from $y = 4ax + b$.

10. Solve $e^{-x}\frac{dy}{dx} = 2$.

Section B (5 x 8 = 40 marks)

Answer Any Five Questions

11. Verify Cayley Hamilton theorem for the matrix $\begin{pmatrix} -3 & 1 \\ -1 & 2 \end{pmatrix}$.

12. Solve the system of equations $x + 2y + 3z = 14$, $3x + y + 2z = 11$, $2x + 3y + z = 11$ using Cramer's rule.

13. Find the value of k so that the roots of the equation $2x^3 + 6x^2 + 5x + k = 0$ are in arithmetic progression.

14. Find the n^{th} derivative of $\frac{x^2}{(x-1)^2(x+2)}$.

15. If $y=(A+Bx)e^{kx}$, Show that $y_2-2xy_1+x^2y=0$.

16. Evaluate $\int\frac{2x+3}{x^2+2x+5}dx$.

17. Evaluate $\int\frac{x^2}{\sqrt{1-x^2}}dx$.

18. Solve $\frac{1}{x}\frac{dy}{dx}+\frac{y}{x}\tan x=\cos x$.

Section C(2x 20 = 40 marks)

Answer Any Two Questions

19. a) Test the consistency of the system of equations $x+y+z=6$, $x+2y+3z=14$, $x+4y+7z=30$ and if consistent solve them.

b) Find the eigen values and eigen vectors of the matrix $\begin{pmatrix}1&2&3\\0&2&3\\0&0&2\end{pmatrix}$.

(8+12)

20. a) Solve the equation $2x^6-9x^5+10x^4-3x^3+10x^2-9x+2=0$.

b) If $y=\sin(m\sin^{-1}x)$, Prove that
$(1-x^2)y_{n+2}-(2n+1)xy_{n+1}+(m^2-n^2)y_n=0$.

(10+10)

21. a) Evaluate $\int\frac{dx}{12+13\cos x}$

b) Solve $(1-x^2)\frac{dy}{dx}+2xy=x\sqrt{1-x^2}$.

(10+10)

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

U.G. DEGREE END SEMESTER EXAMINATIONS APRIL 2018

CLASS AND GROUP: ALL UG

TITLE: Introduction to Computer & Information Technology (114UC1G01)

TIME: 3 HRS | SEMESTER – I | MAX. MARKS: 100

03/FN

SECTION – A (10 × 2 = 20)

Answer ALL the questions:

1. What is the purpose of Secondary storage hardware?
2. Define ROM chips.
3. List the different types of pen-based systems.
4. What are plotters typically used for?
5. What are the main features of Window NT Platform?
6. What is the importance of spreadsheet software?
7. What are the basic criteria for choosing a Printer?
8. Define a FDDI network.
9. What is a browser?
10. What are the different parts of an E-mail address?

SECTION – B (5 × 8 = 40)

Answer any FIVE questions:

11. Discuss about the software categories with examples.
12. Explain any two input hardware.
13. Discuss about the Linux and UNIX operating system platform.
14. How does ISDN and ADSL overcome a standard phone modems? Explain.
15. Explain the basic steps involved in establishing a dial-up connection to the Internet.
16. Discuss about optical disk.
17. Explain the different editing features of a document.
18. Discuss about the different types of networks.

SECTION – C (2 ×20 = 40)

Answer any TWO questions:

19. Explain Output hardware in detail.
20. Discuss about the popular uses of the World Wide Web.
21. Explain the various types of communication channels.

MADRAS CHRISTIAN COLLEGE (Autonomous)
SELF FINANCED STREAM
BCA DEGREE END OF SEMESTER EXAMINATIONS,
CLASS & GROUP: BCA-COMPUTER APPLICATIONS April/May-2018
TITLE OF PAPER: DIGITAL CIRCUITS Sub.Code: 114CS1M01

TIME: 3 Hrs 24/AN **Max.Marks:100**

Answer ALL the Questions **SECTION-A** (10x2=20)

1. Convert $(109)_{10}$ to its equivalent Octal Number.
2. Give the 1's and 2's complements forms for the following binary numbers.
   a) 11010 b) 11011
3. State Distributive law.
4. What is universal gate?
5. What is De-Multiplexer?
6. What is the role of Binary parallel adder?
7. Write down any two types of flip-flops.
8. Draw truth table for D flip-flop.
9. What is meant by Registers?
10. What is the role of Serial transfer?

SECTION-B (5x8=40)

Answer any FIVE Questions. Each Question carries Eight Marks

11. Convert the following decimal numbers to Hexadecimal numbers.
    a) $(1020)_{10} = (?)_{16}$ b) $(98.625)_{10} = (?)_{16}$
12. State De Morgan's Theorems and prove that $\overline{A + B} = \overline{A} . \overline{B}$.
13. Simplified expressions in sum of product.
    $F(A, B, C) = \sum (1, 2, 3, 5, 7)$
14. With neat diagram and explain Half Subtractor.
15. Distinguish between Decoders and Encoders.
16. Draw a neat diagram and explain about Multiplexer.
17. Explain about T flip-flops.
18. Elaborate about various Shift registers.

SECTION-C (2x20=40)

Answer any TWO of the following. Each question carries 20 marks.

19. Simplify the following Using K-Map
    $F(A, B, C, D) = \sum (0, 1, 3, 5, 7, 9, 11, 12, 13,14,15)$
20. Draw a neat diagram and explain Half Adder and Full Adder.
21. Explain logic gates with neat diagram.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM

END OF SEMESTER EXAMINATION APRIL-2018
CLASS & GROUP: B.C.A. COMPUTER APPLICATIONS

TIME: 3Hrs
19|FN

max. marks: 100

TITLE: WEB PROGRAMMING (084CS6MO2)

SECTION A

Answer all the questions **(10×2=20 marks)**

1. Expand XHTML.
2. List the types of formatted lists.
3. List the operators in Java Script.
4. Define heading tags.
5. Define event capturing.
6. Define event object.
7. List the built-in objects.
8. Define session object.
9. Define cookies.
10. List the syntax for text areas.

SECTON B

Answer Any Five questions **(5× 8 =40 marks)**

11. Explain frames with syntax.
12. Discuss in detail about formatted lists.
13. Discuss in detail Java Script and servers.
14. List the object-based programming features of Java Script.
15. Explain about objects in Java Script.
16. Explain the response object with its properties and methods.
17. Explain ASP model.
18. Briefly explain Table Creation.

SECTION C

Answer Any Two questions **(2 ×20=40 marks)**

19. List and explain various statements and functions of Java Script.
20. Explain Event handling in Java Script.
21. Explain briefly about working with HTML forms.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF – FINANCED STREAM

B.C.A DEGREE END OF SEMESTER EXAMINATION, APRIL-2018

CLASS & GROUP: B.C.A COMPUTER APPLICATIONS

TITLE: SYSTEM MANAGEMENT – II (084CS4A02)

TIME: 3 HOURS MAX MARKS: 100

18/FN

PART – A (10 X 2 = 20)

ANSWER ALL

GIVE THE MEANING OF:

1. Book keeping
2. Double entry
3. Liabilities
4. Balance sheet
5. Cash flow
6. Variable cost
7. CVP analysis
8. Debtors
9. Break – even analysis
10. Cash budget

PART – B (5 X 8 = 40)

ANSWER ANY FIVE QUESTIONS

11. What are the advantages of accounting?
12. Write a short note on dual aspect concept.
13. What are accounting conventions? Explain any two briefly.
14. What are the advantages of Marginal Costing?
15. What are the classifications of budgets?
16. Calculate gross profit ratio from the following:

PARTICULARS	Rs.
Sales	1,00,000
Sales Returns	1,00,000
Opening stock	2,00,000
Purchases	6,00,000
Purchases Returns	1,50,000
Closing stock	65,000

17. From the following details of a trader you are required to calculate stock turnover ratio.

PARTICULARS	Rs.
Sales	39,984
Sales Returns	380
Opening stock at cost	1,378
Closing stock at cost	1,814
Total gross profit for the year	8,068

18. Prepare a production budget for the half year ending June 2017 from the following information

Product	Budgeted sales quantity (in units)	Actual stock on 31.12.17 (in units)	Desired stock on 31.6.17 (in units)
S	20,000	4,000	5,000
T	50,000	6,000	10,000

PART – C (2 X 20 = 40)

ANSWER ANY TWO QUESTIONS

19. Explain in detail the concepts of accounting.
20. From the following Trial Balance. Prepare Trading, Profit & Loss a/c for the year 2010 March

Particulars	Dr. (Rs.)	Cr. (Rs.)
Opening stock	12500	
Depreciation	7000	
Carriage inwards	700	
Furniture	8000	
Carriage outwards	500	
Plant & machinery	200000	
Cash	8900	
Salaries	7500	
Debtors	19000	
Discount	1500	
Bills receivable	17000	
Wages	16000	
Sales returns	14000	
Purchase	86000	
Sales		189000
Commission		2000
Capital		171300
Creditors		17500
Bills payable		5000
Return outwards		13800
TOTAL	398600	398600

There was closing stock worth Rs.65,000 on 31.3.2010

21. The following details apply to an annual budget for manufacturing company:

QUARTER	1	2	3	4
Working days	65	60	55	60
Production (units per working day)	100	110	120	105
Raw material purchases (% by weight of annual total)	30%	50%	20%	-
Budgeted purchase price (per kg)	Re.1	Rs.1.05	Rs.1.125	-

Quantity of raw materials per unit of production – 2 kgs

Budgeted opening stock of raw materials – 4000 kgs [Cost – Rs.4000]

Budgeted closing stock of raw materials – 2000 kgs

Issues are priced on FIFO basis

Calculate the following budgeted figures:

(i) Quarterly and annual purchases of raw material by weight and value

(ii) Closing quarterly stock by weight and value

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A DEGREE END SEMESTEREXAMINATION, April-2018

CLASS AND GROUPS: B.C.A COMPUTER APPLICATIONS.

TITLE OF THE PAPER: PROGRAMMING USING C (114CS2MO1)

TIME: 3HRS SEMESTER - II MAX.MARKS:100

23/AN

SECTION – A

ANSWER ALL QUESTIONS: **10 X 2 = 20**

1. Define keyword.
2. What is type conversion?
3. State the purpose of GOTO statement.
4. Differentiate break and continue statements.
5. What is Recursion?
6. What are multidimensional arrays?
7. Give an example for UNION.
8. What is Macro substitution?
9. Declare an integer pointer iptr.
10. What are command line arguments?

SECTION – B

ANSWER ANY FIVE QUESTIONS: **5 X 8 =40**

11. Explain about the Primitive data types used in 'C'
12. Illustrate Nested If structure.
13. How would you initialize two dimensional arrays?
14. Describe structures within structures.
15. Explain the relationship between pointers and arrays.
16. List any four mathematical functions and explain its purpose with examples.
17. Write a C program to print the sum of the digits of a 3 digit number.
18. Differentiate between While.. do and do..while loop.

SECTION – C

ANSWER ANY TWO QUESTIONS: **2 X 20 =40**

19. (a) Describe the Various types of operators available in C.

20. (a) Explain the creation and purpose of user defined functions with an example.

    (b) Write a C program to illustrate array of structures.

21. (a) Discuss about the functions for performing input / output operations on files. (12)

    (b) Describe the storage classes in C. (8)

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MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

U.G. DEGREE END SEMESTER EXAMINATIONS MAY- 2018

CLASS AND GROUP: ALL UG

TITLE: Introduction to Computer & Information Technology (114UC1G01)

TIME: 3 HRS | SEMESTER – II | MAX. MARKS: 100

03/AN

SECTION – A (10 × 2 = 20)

Answer ALL the questions:

1. Define Computer software.
2. Expand RISC & CISC
3. List the different ways of giving input to a computer.
4. What are Optical disks?
5. How to define formulas in a spreadsheet?
6. List any two Operating Systems
7. What is the purpose of a MODEM?
8. Different between Wired & Wireless Networks.
9. Define ISPs.
10. What is WWW?

SECTION – B (5 × 8 = 40)

Answer any FIVE questions:

11. Explain the characteristics of ROM with its categories.
12. Discuss about any two input devices.
13. Discuss about the features of Windows 9x and Windows NT operating system.
14. Explain any two types of communication channels.
15. Discuss about the addressing method followed for E-mails and websites.
16. Explain the types of RAM .
17. Discuss about Optical disks.
18. How to give audio signals as input to a computer? Explain.

SECTION – C (2 × 20 = 40)

Answer any TWO questions:

19. A) Explain CISC, RISC and MPP architectures of processor. (10)
    B) Discuss about the popular uses of World Wide Web. (10)
20. A) Explain the different formattingfeatures of Word Processor software. (10)
    B) Discuss about the different topologies of LAN. (10)
21. Explain the characteristics of Monitors with its types.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
B.C.A. DEGREE EXAMINATION APRIL-2018
CLASS & GROUP: B.C.A. COMPUTER APPLICATIONS
TITLE: ALLIED MATHEMATICS II (084CS2AO1)

Time: 3 Hours **SEMESTER: II** **Max: 100 Marks**

27/AN **SECTION- A** **(10 x 2 = 20 marks)**

Answer ALL Questions

1. If $A = \{3,4,5\}, B = \{c,d\}$, Find $A \times B$ and $B \times A$.

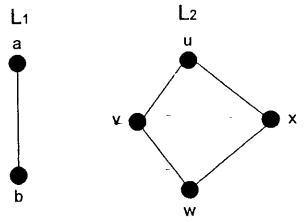
2. Construct the truth table for $P \vee \sim Q$.

3. Write down the rule of product.

4. Solve the recurrence relation $a_r - 4a_{r-1} + 3a_{r-2} = 0$.

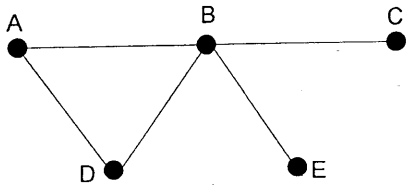
5. Define semigroup isomorphism.

6. For the posets L_1 and L_2 given below draw the poset $(L_1 \times L_2, \leq)$.



7. Define discrete graph and give an example.

8. Write down the adjacency structure representation of the following graph.



9. Define ordered tree and forest.

10. What is meant by tree searching.

SECTION- B **(5 x 8 = 40 marks)**

Answer any FIVE questions

11. Prove by mathematical induction that $1^2 + 2^2 + 3^2 + \ldots\ldots + n^2 = n(n+1)(2n+1)/6$

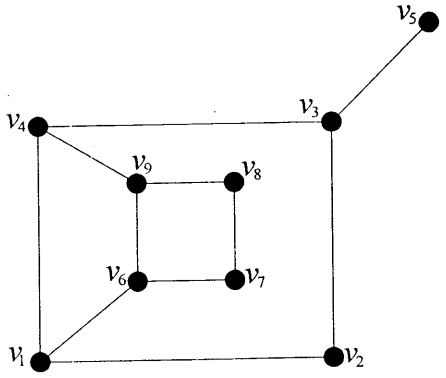
12. Construct the truth table for $((P \wedge \sim Q) \rightarrow (P \rightarrow (Q \vee R))$.

13. Suppose there are 6 boys and 5 girls.
    (i) In how many ways can they sit in a row?
    (ii) In how many ways can they sit in a row if the boys and girls are each to sit together?
    (iii) In how many ways can they sit in a row if the girls are to sit together and the boys do not sit together?
    (iv) How many seating arrangements are there with no two girls sitting together?

14. State and prove Demorgan's law of sets using Venn diagram

15. State and prove the fundamental theorem of semigroup homomorphism.

16. Define path between any two vertices of a graph and list any 4 paths from v_1 to v_3.



17. Define digraph and draw the digraph with the following matrix as adjacency matrix.

$$\begin{pmatrix} 0 & 1 & 0 & 1 \\ 1 & 0 & 1 & 0 \\ 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 \end{pmatrix}.$$

18. Construct the binary tree for the following representation .

LEFT	8	5	9	2	0	0	0	6	0
DATA	----	D	E	C	F	B	G	A	H
RIGHT	0	7	0	3	0	4	0	0	0

SECTION- C (2 x20 = 40 marks)

Answer any TWO questions

19. (a) If $A=\begin{pmatrix}1&0&1\\1&1&0\\0&1&1\end{pmatrix}, B=\begin{pmatrix}0&1&1\\1&1&0\\0&0&1\end{pmatrix}, C=\begin{pmatrix}0&0&1\\1&0&0\\0&1&1\end{pmatrix}$,

Verify that (a) $A\vee(B\wedge C)=(A\vee B)\wedge(A\vee C)$

(b) $A\wedge(B\vee C)=(A\wedge B)\vee(A\wedge C)$

(b) Obtain the CNF and DNF for $(P\rightarrow(Q\wedge R))\wedge(\sim P\rightarrow(\sim Q\wedge\sim R))$.

(10+10)

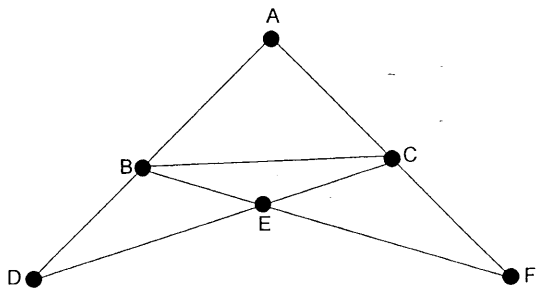
20. (a) (a) Solve $a_r-2a_{r-1}=(r+1)2^r$.

(b) If $(S,\bullet)$ and $(T,*)$ are two monoids with identities e and e^1 respectively and if $f:S\rightarrow T$ is an isomorphism, Prove that $f(e)=e^1$.

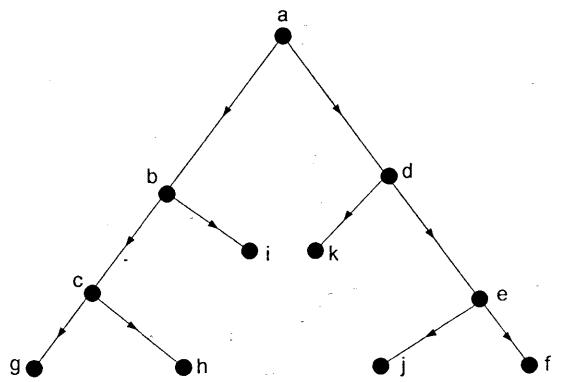
(c) Show that there is a semigroup homomorphism between $(N,+)$ and $(Z_m,+_m)$.

(10+5+5)

21. (a) Write Fleury's algorithm. Apply the same and construct an Euler circuit for the following graph.



(b) Write the preorder, postorder and inorder search algorithms and search the following tree in preorder, postorder and inorder.



(10+10)

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

BCA DEGREE EXAMINATION APRIL -2018

GROUP/BRANCH: BCA COMPUTER APPLICATION

TITLE: COMPUTER INTEGRATED STATISTICAL METHODS AND OPTIMIZATION TECHNIQUES-I (084CS3AO1)

TIME: 3HRS SEMESTER-III MAX MARKS: 100

25/AN

SECTION – A

Answer all Questions. **10x 2=20 Marks**

1. What is a subdivided bar diagram?
2. Define Ogive.
3. Define mode.
4. What is a quartile deviation? Give its formula.
5. Write the properties of correlation coefficient.
6. Write the equations of regression lines.
7. What is interpolation?
8. Write the Newton's forward formula for interpolation.
9. What is numerical differentiation?
10. Give the formula for Simpson's 1/3 rule.

SECTION – B

Answer any FIVE. **5x8=40 Marks**

11. Draw a simple bar diagram from the following data.

Year	: 1971	1972	1973	1974	1975	1976	1977	1978
Export Million(Rs)	: 1962	2174	2419	3024	3852	4688	5355	5112

12. Draw a histogram for the following data.

Variable	: 1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
Frequency:	6752	6616	6981	7412	7678	7035

13. What are the objectives of Averaging?

14. Calculate the mean for the following frequency distribution.

Class Interval	:	0-8	8-16	16-24	24-32	32-40	40-48
Frequency	:	8	7	16	24	15	7

15. Find the correlation coefficient between X and Y.

X :	2	4	6	8	10
Y :	10	9	8	7	6

16. Find a cubic polynomial which takes the following values.

X	:	3	7	9	10
F(x)	:	168	120	72	63

17. Use Lagrange's formula to find f(7) for the following data.

X	:	1	3	4
F(x)	:	4	12	19

18. Evaluate $_1\int^5 X^{1/2}dx$ using trapezoidal rule.

SECTION – C

Answer any Two. **2x20=40 Marks**

19. Calculate the mean and standard deviation for the following data giving the age distribution of 542 members.

Age(yrs)	: 20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of members	: 3	61	132	153	140	51	2

20. Ten competitors in a musical test were ranked by three judges X,Y and Z in the following order, using rank correlation method discuss which pair of judges has the nearest approach to common linking in music.

Ranks by X:	1	6	5	10	3	2	4	9	7	8
Ranks by Y:	3	5	8	4	7	10	2	1	6	9
Ranks by Z:	6	4	9	8	1	2	3	10	5	7

21. (a) The following table gives the population of a town for the years 1931 to 1971.Using Newton's backward difference formula and estimate the population for the year 1965.

Year	:	1931	1941	1951	1961	1971
f(x)	:	36	66	81	93	101

(b)Evaluate $_2\int^3 dx/1+x$ using Simpson's 1/3 rule.

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MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
BCA DEGREE EXAMINATION APR-2018

GROUP/BRANCH: BCA COMPUTER APPLICATION

TITLE OF THE PAPER-SYSTEM MANAGEMENT-I (084CS3AO2)

TIME: 3HRS SEMESTER-III MAX MARKS: 100

2/5 FN

SECTION-A

Answer **ALL** the Questions. 10x2=20

1. Define the term end-user.
2. What is a prototype?
3. Define Interview.
4. What is decision tree?
5. What is a data dictionary?
6. Define data structure.
7. Define Capacity.
8. What is Ergonomic design?
9. What is tabular format?
10. What are mnemonic codes?

SECTION-B

Answer any **FIVE** Questions. 5x8=40

11. Explain the different categories of Information Systems.
12. Write the difference between Institutional versus End-user application.
13. Explain the tools of data flow Strategy.
14. Discuss the possible arrangement and relationship of data that data elements describe.
15. Write short notes on Elements of the design.
16. What are different types of testing project feasibility? Explain?
17. What are windows? What benefits do they offer users?
18. Explain the concepts of basic file terminology.

SECTION-C

Answer any **TWO** Questions. 2x20=40

19. Explain the SDLC.
20. What are the tools for documenting procedures and decisions? Explain.
21. What is input validation? List the categories and explain.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
B.C.A DEGREE END OF SEMESTER EXAMINATION APRIL-2018
CLASS AND GROUP : B.C.A – COMPUTER APPLICATION
TITLE OF PAPER : MICROPROCESSORS (084CS3M02)

TIME : 3 HRS **SEMESTER – III** **MAX MARKS : 100**

30/FN

SECTION- A

Answer all Questions **10 x 2 = 20**

1. What is a microprocessor?
2. Define ALU.
3. Define system bus.
4. Define register
5. Give syntax for Rotate Instruction.
6. List two 16 bit Register instruction.
7. Define Counters.
8. What is Interrupt?
9. Expand RIM instruction.

SECTION - B

Answer any FIVE questions: **5 X 8 = 40**

10. Explain 8085 data format.
11. Explain Data Transfer Instructions.
12. Write an assembly language program for BCD addition.
13. Explain Looping techniques.
14. List and explain Arithmetic Instruction.
15. Explain DMA in detail.
16. Explain Time delay register.

SECTION-C **2 X 20 = 40**

Answer any TWO questions in detail:

17. Explain in detail with diagram Architecture of 8085 and explain its functions in detail.
18. List and explain Jump instruction in 8085 microprocessor.
19. Explain Interrupts in detail.

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MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A DEGREE END OF SEMESTER EXAMINATION MAY- 2018

CLASS AND GROUP :B.C.A

TITLE OF PAPER : MULTIMEDIA SYSTEMS (084UC3IO3)

TIME : 3 HRS SEMESTER – III MAX MARKS : 100

07/FN

SECTION A

Answer all the questions **(10×2=20 marks)**

1. Define multimedia hardware.
2. What is meant by sampling rate?
3. Write about digital audio editing techniques.
4. Define extended level MIDI.
5. What is meant by Hypermedia?
6. Define rastor and vector graphics.
7. What is cell animation?
8. Define three dimensional animations.
9. How to set up the digital video studio.
10. What are the digital video file sizes?

SECTION B

Answer Any Five questions **(5× 8 =40 marks)**

11. Define the digital media in detail.
12. Explain about the multimedia software.
13. Discuss about the digital audio recording techniques.
14. Write about digital imaging fundamentals.
15. Explain in detail about the basic concepts of color displays.
16. Explain detail about the 2Dand 3D animation techniques.
17. Discuss about the computer animation fundamentals.
18. Explain about the full motion videos and digital video file sizes.

SECTION C

Answer Any Two questions **(2 ×20=40 marks)**

19. Discuss about the various classification of multimedia and multimedia hardware in detail.
20. Describe in detail about the digital audio technology.
21. Explain in detail about the digital video production techniques.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
BCA DEGREE EXAMINATION APR-2018

GROUP/BRANCH: BCA COMPUTER APPLICATION

TITLE OF THE PAPER-DATA STRUCTURE AND ALGORITHMS (084CS3MO1)

TIME: 3HRS SEMESTER-III MAX MARKS: 100

20/AN

SECTION-A

Answer **ALL** the Questions. 10x2=20

1. Define algorithm.
2. What is ADT?
3. Define stack.
4. What is an array?
5. Define recursion.
6. Define time complexity.
7. What is sorting?
8. Define: tree.
9. What is searching?
10. What is binary search tree?

SECTION-B

Answer any **FIVE** Questions. 5x8=40

11. Write an algorithm to add and delete an item in a Queue.
12. Write a note on asymptotic notations.
13. Explain the various operation of stack.
14. Discuss the selection sort mechanism.
15. Write an algorithm for the push operation in stack using linked list.
16. Discuss the linked representation of binary tree.
17. Explain linear search.
18. Explain depth first traversal.

SECTION-C

Answer any **TWO** Questions. 2x20=40

19. What is doubly linked list? Write an algorithm to delete and add an element into it.
20. Explain Tree traversal algorithm.
21. Write a note on Divide and Conquer algorithm.

MADRAS CHIRSTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A. END OF SEMESTER EXAMINATIONS APRIL- 2018

CLASS & GROUP: B.C.A. COMPUTER APPLICATIONS

TITLE OF THE PAPER: OPERATING SYSTEMS (084CS4M01)

3 Hrs. **SEMESTER-IV** **Max.marks:100**

24/Fn

PART- A

Answer ALL the questions **(10x2=20)**

1. What is multiprogramming?
2. Define system call.
3. What is parallel processing?
4. What are semaphores?
5. What are the advantages of resource sharing?
6. How are deadlocks detected?
7. Define time slice.
8. How are priorities handled in scheduling?
9. What is block mapping?
10. What are pages?

PART- B

Answer any FIVE questions **(5x8=40)**

11. Write a note on the various stages of a process.
12. What is use of process control block?
13. What is meant by concurrent programming? How are they implemented?
14. Discuss briefly the producer consumer relationship.
15. What are the conditions for a deadlock to happen?
16. What is the purpose of scheduling?
17. Differentiatiate pre-emptive and non-pre-emptive scheduling.
18. Write a note on storage swapping.

PART- C

Answer any TWO questions **(2x20=40)**

19. Explain in detail the Banker's algorithm in deadlocks.
20. Write a detailed note on the various scheduling algorithms with suitable examples.
21. Explain virtual storage organization in detail.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

BCA DEGREE EXAMINATION APRIL -2018

GROUP/BRANCH: BCA COMPUTER APPLICATION

TITLE: COMPUTER INTEGRATED STATISTICAL METHODS AND OPTIMIZATION TECHNIQUES-II (084CS4AO1)

TIME: 3HRS SEMESTER-IV MAX MARKS: 100

27/FN

SECTION – A

Answer all Questions. **10X2=20**

1. Define O.R.
2. Define optimum solution of an LPP.
3. What is a surplus variable?
4. What is a replacement ratio in simplex procedure?
5. Mention any two methods for finding the initial solution of a transportation problem.
6. What is an unbalanced transportation problem?
7. What is an assignment problem?
8. Define a sequencing problem.
9. What is a float? Give the formula.
10. Define optimistic time estimate in a PERT network?

SECTION – B

Answer any FIVE. **5X8=40**

11. Discuss briefly on the various models of OR.

12. Solve graphically.
    Max $Z=40x+80y$, $2x+3y\leq 48$, $x\leq 15$, $y\leq 10$, $x, y \geq 0$.

13. Find all the basic solutions for the following linear equations.
    $2x1+x2-x3=2$, $3x1+2x2+x3=3$.

14. Reduce the following LPP to its standard form.
    Max $Z=4x1+2x2+x3$, s.t $x1-2x2\leq 8$, $2x1+3x2+x3\geq 10$, $x1\geq 0$, $x2$ unrestricted.

15. Find the initial basic feasible solution using North West corner rule.

	Destinations			
	A	B	CDemand	
W1	5	4	2	6
Source W2	4	7	6	8
W3	2	5	8	12
W4	8	6	7	4
Requirements	8	10	12	30

16. Solve the following Assignment problem

		Machines			
		1	2	3	4
Jobs	A	11	17	8	16
	B	9	7	12	6
	C	13	16	15	12
	D	14	10	12	11

17. There are 5 jobs each of which go through 2 machines A and B in the order A, B. The processing time(hrs) are given. Determine the optimum sequence.

Job	:	J1	J2	J3	J4	J5
A	:	5	1	9	3	10
B	:	2	6	7	8	4

18. Draw the network and find the critical path.

Activity:	1-2	1-3	2-3	2-4	3-4	4-5
Duration (days) :	20	25	10	12	6	10

SECTION – C

Answer any Two. **2X20=40**

19.Solve using Simplex method. Max Z = x1+4x2+5x3
s.t $3x1+3x2 \leq 22$, $x1+2x2+3x3 \leq 14$, $3x1+2x2 \leq 14$, $x1,x2,x3 \geq 0$.

20. Solve the following transportation problem.

		To					
		A	B	C	D	E	Available
From	P	4	1	3	4	4	60
	Q	2	3	2	2	3	35
	R	3	5	2	4	4	40
		22	45	20	18	30	

21. The time estimates of a PERT network are as follows.
(i)Draw the network, determine the critical path and project duration.
(ii)Find the probability that the project will be completed within 40 days.

Activity	1-2	1-6	2-3	2-4	3-5	4-5	6-7	5-8	7-8
T0	1	2	2	2	7	5	5	3	8
Tm	7	5	14	5	10	5	8	3	17
Tp	13	14	26	8	19	17	29	9	32

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MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
B.C.A. DEGREE END OF SEMESTER EXAMINATION APRIL- 2018
CLASS & GROUP: B.C.A. (Computer Applications)
TITLE: SYSTEM MANAGEMENT - II (134CS4A03)

Time: 3 Hrs SEMESTER-IV Max Marks: 100

26/FN

SECTION- A

Answer ALL the questions (10 X 2 = 20)

1. Define E-Commerce.
2. What is called Value-Chain?
3. What is m-Commerce?
4. What is called repeater?
5. Define B2B.
6. List the components of EDI.
7. What is called authentication?
8. What is Intrusion Detection?
9. What is Smart card?
10. What is e-wallet?

SECTION- B

Answer Any Five Questions (5 X 8 = 40)

11. Explain in detail about the advantages of E-Commerce.
12. Discuss E-commerce model with a neat diagram.
13. What are the factors to consider for wireless LAN in an organization?
14. Discuss the components involved in protocol architecture.
15. Explain the specific elements of B2B.
16. Discuss about the types of viruses.
17. Describe about the hacking process.
18. Discuss in detail about ACID test.

SECTION- C

Answer Any Two Questions (2X 20 = 40)

19. Describe about the E-Commerce business models and their features.

20. Explain in detail about the WAP protocol stack with a neat diagram.

21. i) What is SET? How it will secure the process of transactions? (10 Marks)

    ii) Discuss the types of Electronic Payment Mode. (10 Marks)

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A DEGREE END SEMESTEREXAMINATION, April-2018

CLASS AND GROUPS: B.C.A COMPUTER APPLICATIONS.

TITLE OF THE PAPER: DATABASE MANAGEMENT SYSTEMS (084CS5M01)

TIME: 3HRS SEMESTER- V MAX.MARKS:100

26/AN

SECTION – A (10x2=20)

Answer ALL questions.

1. Define: Transaction.
2. What is meant by Database?
3. Define: Entity.
4. What are attributes? Give examples.
5. What is meant by Table?
6. What is an Integrity constraint?
7. List out any four aggregate functions.
8. What is meant by nested queries?
9. What is foreign key?
10. What is first normal form?

SECTION – B (5x8=40)

Answer Any FIVE questions.

11. Explain the advantages of DBMS.
12. Discuss about relationship and relationship sets with example.
13. Explain views in DBMS.
14. Describe triggers.
15. Explain UNION and INTERSECT with examples.
16. Explain transaction management.
17. Write a short note on Relational model.
18. Explain the basic queries with an example.

SECTION – C (2x20=40)

Answer Any TWO questions.

19. Describe ER diagrams and explain ER diagram for Library Management system.
20. Explain the following:
    A. Fundamental operation of relational algebra (12 Marks)
    B. Relational calculus (8 Marks)
21. What is normal form? Explain the different types of normal forms with example.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A. DEGREE END OF SEMESTER EXAMINATION April- 2018

CLASS AND GROUP : B.C.A. COMPUTER APPLICATIONS

TITLE OF PAPER : VISUAL BASIC NET (084CS5MO2)

Time:3hrs SEMESTER-V **Marks:100**

30/AN

SECTION - A **10 X 2 = 20**

ANSWER ALL OF THE FOLLOWING QUESTIONS:

1. What is VB.NET?
2. What is encapsulation?
3. Define polymorphism.
4. What is dynamic array?
5. Write the syntax and uses of Redim statement.
6. What is namespace?
7. List out any two ways how to create a class.
8. What is common dialog class?
9. Define Destructor.
10. What is datagrid?

SECTION -B **5 x 8 = 40**

ANSWER ANY FIVE OF THE FOLLOWING QUESTIONS:

11. Describe the features of .NET Framework.
12. Explain in detail about Inheritance.
13. Explain the different data types used in VB.NET.
14. How to create a class in VB.NET? Explain with suitable examples.
15. What are the functions are available in Array Class Members? Explain.
16. Explain the Constructor with example.
17. Write the properties , methods and events of the following control:
    a) Radio button (4marks)
    b) Textbox (4marks)
18. What are the classes included in the dialog box.

SECTION – C **2 x 20 = 40**

ANSWER ANY TWO OF THE FOLLOWING QUESTIONS:

19. Explain in detail about looping statement with example.
20. Explain the concept of overloading and overriding in VB.NET with example.
21. Explain the Multi-dimensional arrays with suitable examples.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A DEGREE END OF SEMESTER EXAMINATION Apr 2018

CLASS AND GROUP :B.C.A

TITLE OF PAPER : PROGRAMMING USING C# (084CS5MO4)

TIME : 3 HRS SEMESTER – V MAX MARKS : 100

20/FN

SECTION A

Answer all the questions **(10×2=20 marks)**

1. Expand CLR and CLS.
2. What is command line complier?
3. Define constructors.
4. Differentiate break and Continue
5. What is multi dimensional array?
6. What is main ( ) method?
7. Define enumeration.
8. Define Abstract classes.
9. Give the syntax for nesting try blocks.
10. Define stream classes.

SECTION B

Answer Any Five questions **(5× 8 =40 marks)**

11. Explain the data types available in C# along with their range.
12. Explain the control statements.
13. Write a note on classes and objects.
14. Write a note on method overloading.
15. Explain the concept of operator overloading.
16. Explain how the interface can be inherited.
17. Explain the concept of throwing an exception using throw
18. Write a note on overview of C#.

SECTION C

Answer Any Two questions **(2 ×20=40 marks)**

19. Discuss the various operators in C# with suitable example.
20. Explain in about arrays and strings.
21. Explain about the concept of inheritance with example.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
SELF FINANCED STREAM
BCA DEGREE EXAMINATION APR-2018

GROUP/BRANCH: BCA COMPUTER APPLICATION

TITLE OF THE PAPER-SOFTWARE ENGINEERING (084CS6MO1)

TIME: 3HRS SEMESTER-VI MAX MARKS: 100

17|FN

SECTION-A

Answer **ALL** the Questions. 10x2=20

1. Define software Engineering.
2. Define process.
3. What is coupling?
4. What is the fundamental goal of s/w design?
5. What are data flow diagrams?
6. What is the primary disadvantage of structured design?
7. What is quality assurance?
8. List any four automated tools for s/w maintenance.
9. What is unit testing?
10. Write the formula for ACT.

SECTION-B

Answer any **FIVE** Questions. 5x8=40

11. Distinguish between a program and a s/w product.
12. What is the goal of requirements gathering and analysis?
13. What are the good properties of SRS document? Explain.
14. What is structured analysis? Explain
15. Write a note on Unit testing.
16. Explain SEI Capability, maturity model.
17. What are the different types of reliability metrics? Explain
18. Explain architecture of Case Environment.

SECTION-C

Answer any **TWO** Questions. 2x20=40

19. Explain any three software life cycle model.
20. Write a note on
    a) Classification of Cohesion.
    b) White box testing.
21. Discuss the following.
    a) What are the types of user interface? Explain
    b) Software Maintenance process models.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)

SELF FINANCED STREAM

B.C.A DEGREE END SEMESTEREXAMINATION, April-2018

CLASS AND GROUPS: B.C.A COMPUTER APPLICATIONS.

TITLE OF THE PAPER: JAVA PROGRAMMING (084CS6M03)

TIME: 3HRS SEMESTER- VI MAX.MARKS:100

23 | FN

SECTION – A (10x2=20)

Answer ALL questions.

1. What is Object Oriented Programming?
2. What is meant by servlet?
3. Define operators.
4. What is conditional statement?
5. Define recursion.
6. Define inner classes.
7. What is meant by thread?
8. What is abstract class?
9. What is meant by event handling?
10. Define file.

SECTION – B (5x8=40)

Answer Any FIVE questions.

11. Explain data types in java.
12. Explain any four operators in java.
13. Why a constructor does not have any return type? Explain it with proper example
14. What are the different forms of inheritance? Explain.
15. Explain file stream classes with example.
16. Write a Java program to generate a pyramid of numbers for given number N using for loop.
17. How Packages differ from Interfaces? Explain it with a suitable example program to calculate student marks statement.
18. What is meant by applets? Explain the basics of applets with an example.

SECTION – C (2x20=40)

Answer Any TWO questions.

19. Describe control statements in java with an example.
20. Explain overloading methods with an example.
21. Elaborate exception handling in java.

MADRAS CHRISTIAN COLLEGE (AUTONOMOUS)
[SELF-FINANCED STREAM]
B.C.A DEGREE END OF SEMESTER EXAMINATIONS APRIL 2018

GROUP/BRANCH: COMPUTER APPLICATIONS

TITLE OF THE PAPER: [084CS6M05] DATA COMMUNICATIONS AND NETWORKING

Time: 3 Hours **SEMESTER - VI** **Max.:100 Marks**

25/FN

PART-A (10 × 2=20)

Answer *ALL* the questions.

1. What are the basic concepts of line configuration?
2. Define the term 'Topology'.
3. What is multiplexing?
4. Define the term 'Modem'.
5. What is flow control?
6. What is error control?
7. What are repeaters?
8. Define: gateway.
9. What is FTP?
10. What is https?

PART-B (5 × 8 =40)

Answer any *FIVE* questions.

11. Explain various transmission modes with examples.
12. Discuss briefly about categories of networks.
13. Write short note on analog signals and digital signals.
14. Write note on Packet Switching.
15. Discuss on stop-and-wait ARQ.
16. Discuss briefly on bridges.
17. What is protocol? Explain OSI Transport protocol.
18. Write note on Domain Name System.

PART-C (2 × 20 = 40)

Answer any *TWO* questions.

19. Briefly discuss on the OSI model.
20. Write a brief note on any two of the Guided media.
21. Write detailed note on:
    (a) Cellular telephony
    (b) Routing Algorithms (any one)
