

**DE-188****11**

DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION,  
DECEMBER 2014.

ELECTRONIC DEVICES AND DIGITAL CIRCUITS

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks. ( $5 \times 20 = 100$ )

1. (a) What is an Excess-3 code? Why is it called self-complementary code? Explain.
- (b) Explain the use of complements to represent negative numbers in the Decimal number system.
2. (a) Convert the following
  - (i)  $(56)_8 \rightarrow ( )_{10}$
  - (ii)  $(FB17)_{16} \rightarrow ( )_2$
  - (iii)  $(111011)_2 \rightarrow ( )_{10}$
  - (iv)  $(132)_{10} \rightarrow ( )_2$
  - (v)  $(4019)_{10} \rightarrow ( )_{16}$
- (b) (i) Add  $(1101)_2$  with  $(1011)_2$
- (ii) Subtract 11010 from 10111
- (iii) Write  $(-52)_{10}$  into signed binary number
- (iv) Subtract  $42 - 32$  using 2's complement

3. (a) Explain the basic logic gates with their symbols and truth tables.  
 (b) State and prove Demorgan's theorem.
4. (a) Simplify the following logic expressions.  
 (i)  $A\bar{B}C + \bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C}$   
 (ii)  $\bar{A}B\bar{C} + A\bar{B}\bar{C} + \bar{A}B\bar{C} + \bar{A}\bar{B}C$   
 (b) Explain the half-adder and full adder functions with truth table and circuit diagram.
5. (a) Draw Karnaugh map and simplify the Boolean function  
 $Y(A, B, C, D) = \sum m(0, 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15)$   
 (b) Describe the operations of R-S flip flop with logic diagram and truth table.
6. (a) Explain the function of Shift left register.  
 (b) Draw the schematic block diagram of a ring counter. Describe its working principle.
7. (a) With a neat diagram explain the working function of SCR.  
 (b) Explain the applications of operational amplifier.
8. (a) Give a brief note about the photodiode and BJT.  
 (b) Explain the process of breakdown in Zener diode

**DE-189****12**

## DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION, DECEMBER 2014.

## PRINCIPLES OF INFORMATION TECHNOLOGY

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) What are the six elements of a computer and communications system? Explain. (10)
- (b) Explain the five types of computers in detail. (10)
2. (a) Describe the three developments in communications. (10)
- (b) Discuss the ethical concern in the field of information technology. (10)
3. (a) What is application software? Explain the five general categories of applications software. (10)
- (b) What is database software? Explain the features of database software. (10)
4. (a) What are online services, and what do they offer? Explain. (10)
- (b) Discuss the features EDI, Intranets and firewalls and extranets. (10)

5. (a) Explain about the modem. (10)  
(b) Discuss about the three types of wired communication channels. (10)
6. (a) Explain the four types of optical-disk technology used in the computer. (10)  
(b) What are the responsibilities of database administrator? Explain. (10)
7. (a) Describe the various types of database organisation. (10)  
(b) Discuss the six phases of system analysis and design. (10)
8. (a) Explain the five generation of programming languages. (10)  
(b) What is HTML? Explain the various tags in the HTML. (10)
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**DE-190****13**

DISTANCE EDUCATION

B.C.A DEGREE EXAMINATION,  
DECEMBER 2014.

PRINCIPLES OF OPERATING SYSTEM

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

Each question carries equal marks.

(5 × 20 = 100)

1. (a) What is an Operating system? Discuss. (10)  
(b) Write a note on System calls. (10)
2. (a) Discuss about process scheduling. (10)  
(b) Explain in detail about Semaphores. (10)
3. (a) What are the goals of I/O software? Explain. (10)  
(b) How can you detect and recover the deadlocks?  
Explain with suitable example. (10)
4. (a) Explain multiprogramming with fixed partitions.(10)  
(b) Write a note on segmentation. (10)
5. (a) Discuss the file system performance. (10)  
(b) Explain about the file servers. (10)

6. (a) Write a note on priority scheduling. (10)  
(b) Explain about device-independent I/O software. (10)
  7. (a) Discuss the analysis of swapping systems. (10)  
(b) Explain in detail about interprocess communication. (10)
  8. Explain page replacement algorithms in detail. (20)
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**DE-191****14**

## DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION, DECEMBER 2014

## C PROGRAMMING

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain in detail about Top down approach in program development. (10)  
(b) Write short notes on : (10)
  - (i) Modularity
  - (ii) Iteration.
2. (a) What is a Variable? How to declare and initialize a variable? (10)  
(b) What is an expression? How do you evaluate the expression using precedence of operators? (10)
3. (a) Explain the following :
  - (i) For loop
  - (ii) While loop. (10)  
(b) What is an array? How will you declare and initialize arrays? (10)
4. (a) What is function? Why we need user defined functions? (10)  
(b) Explain array of pointers in C with an example. (10)

5. (a) Write short notes on : (10)  
(i) Random access  
(ii) Macro substitution.  
(b) Discuss in detail about include facility and line control. (10)
6. (a) What do you mean by Constant? Explain symbolic constants in C. (10)  
(b) Write a C program to check whether the given number is prime or not. (10)
7. (a) Explain about different storage classes in C. (10)  
(b) Describe the concept of unions. (10)
8. (a) Explain about various input and output operations on files. (10)  
(b) Discuss about streams and buffering. (10)
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**DE-192****15**

## DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION, DECEMBER 2014.

## ACCOUNTING FUNDAMENTALS

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Discuss the scope and functions of accounting.
2. Describe the various accounting concepts.
3. Explain the different types of error with suitable examples.
4. What is meant by single entry system? How does it differ from double entry system? What are its limitations?
5. From the following information, find out :
  - (a) Sales
  - (b) Closing stock
  - (c) Sundry Debtors
  - (d) Sundry Creditors

Gross Profit Ratio	25%
Debtors Turn Over Ratio	4 months
Stock Turn Over Ratio	4 times
Creditors Turn Over Ratio	6 months

Closing stock is Rs 10,000 more than the opening stock

Bills receivables                      Rs. 65,000

Bills payable                              Rs. 80,000

Cost of goods sold for the year Rs. 9,00,000.

6. From the following trail balance, prepare trading profit and loss account for the year ended 31-12-2012 and a balance sheet as on that date :

Debit Balance	Trail Balance		Rs
	Rs	Credit Balance	
Purchases	11,870	Capital	8,000
Debtors	7,580	Bad Debts Recovered	250
Return Inwards	450	Creditors	1,250
Bank deposit	2,750	Return Outwards	350
Rent	360	Bank Overdraft	1,570
Salaries	850	Sales	14,690
Traveling Expanses	300	Bills payable	1,350
Cash	210		
Stock(1-1-2012)	2,450		
Discount Allowed	40		
Drawings	600		
	<u>27,460</u>		<u>27,460</u>

Adjustments :

- (a) The closing stock on 31-12-2012 was Rs. 4,200.
- (b) Write off Rs 80 as Bad debts and create a reserve for Bad debts at 5% an Sunday debtors.
- (c) Three months rent is out standing.

7. Arvind keeps his books under single entry system. Assets and liabilities on 31-12-2010 and 31-12-2011 stood as follows :

	31-12-2010	31-12-2011
	Rs	Rs
Cash	10	2,000
Bank Balance	990	10,000
Stock	7,000	10,000
Sundry Debtors	15,000	20,000
Furniture	3,000	3,000
Sundry creditors	3,000	6,000

Arvind introduced an additional capital of Rs. 3,000 during 2011. He withdrew Rs. 7,000 for domestic purpose. Find out the profit for the year 2011.

8. The books of Adarsh did not agree. The accountant placed the difference of Rs. 1,270 to the debit of suspense account. Rectify the following errors and prepare the suspense account.
- Goods taken proprietor Rs. 75 have not been entered in the books at all.
  - A sale of Rs. 430 to Jayanthi Textiles has been credited as Rs. 340.
  - Old furniture sold for Rs. 540 has been entered in the sales account.
  - A purchase of Rs. 400 from Siva Kumar has been entered in the sales book. However, Siva Kumar's account has been correctly credited.
  - The total of the purchases returns book Rs. 300 has not been posted.

**DE-193****21****DISTANCE EDUCATION****B.C.A./B.C.A. (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****MICROPROCESSORS AND PERSONAL COMPUTERS****(2003 Onwards)****Time : Three hours****Maximum : 100 marks****Answer any FIVE questions.****All questions carry equal marks.****(5 × 20 = 100)**

1. (a) With a neat block diagram explain the function of address, data and control bus. (10)
- (b) (i) Briefly explain about SSI and VLSI technologies. (5)
- (ii) Briefly explain about evaluation of microprocessor. (5)
2. (a) Draw the architecture of 8085 and explain it. (10)
- (b) Explain in detail about timing and control circuit functions. (10)
3. (a) Discuss in detail about 8085 instruction sets. (10)
- (b) Discuss in detail about various addressing modes of 8085. (10)
4. (a) Write an assembly language program to add two 8 bit numbers and product being of 16 bits. (10)
- (b) Write an assembly language program to find one's complement of 96 H. (10)

5. (a) Discuss in detail about RAM, ROM, EPROM. (10)  
(b) Explain in detail about compact disks. (10)
6. (a) Explain briefly the parallel data transfer and serial data transfer scheme. (10)  
(b) Explain in detail about DMA data transfer scheme. (10)
7. (a) Discuss in detail about pentium motherboard. (10)  
(b) Explain the following :  
(i) BIOS (5)  
(ii) VGA. (5)
8. (a) Explain the importance of preventive maintenance of a PC. (10)  
(b) Explain the data backup systems. (10)
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**DE-194****22****DISTANCE EDUCATION****B.C.A./B.C.A (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****OFFICE AUTOMATION****(2003 onwards)**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

 $(5 \times 20 = 100)$ 

1. (a) Explain the facilities available in menu bar. (10)  
(b) Explain the purpose of creating a shortcut icon. (10)
2. (a) Explain Text formatting in word document. (10)  
(b) What is a spell check? How will you carryout the spell check in word document? (10)
3. How to create tables in word document? Explain insert, delete, merge and split rows and columns in tables. (20)
4. (a) How will you create and copy formula in worksheet? Explain with example. (10)  
(b) How will you create chart in worksheet and how to enhance and print it? Explain. (10)
5. Discuss about finding and sorting of records in access. (20)

6. Create a form to adding, inserting and deleting records to a table of your own. (20)
  7. Discuss about merging access tables with word letters. (20)
  8. Discuss about various office application integration with suitable example. (20)
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**DE-195****23****DISTANCE EDUCATION****B.C.A./B.C.A.(Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****SYSTEMS ANALYSIS AND DESIGN****(2003 Onwards)****Time : Three hours****Maximum : 100 marks****Answer any FIVE questions.****All questions carry equal marks.****(5 × 20 = 100)**

1. (a) Explain about various types of systems with example. (8)
- (b) Explain the different stages of system development life cycle with neat diagram. (12)
2. (a) How can you conduct investigation? Explain any two methods of investigation in detail. (10)
- (b) What is the purpose of record review and observation? Explain. (10)
3. (a) Explain about various feasibility study in detail. (10)
- (b) Explain the following cost benefit analysis :
  - (i) Break even
  - (ii) Present value. (10)
4. (a) Explain the concept of data flow in detail with data flow diagram. (10)
- (b) What is the purpose of data dictionary? Explain in detail. (10)



5. (a) Describe in detail about the stages of system design. (10)  
(b) Explain about the input design of on-line systems. (10)
6. (a) What is file? Explain about various types of files. (10)  
(b) Write in detail about database concepts. (10)
7. (a) Explain about top down system development approach with example. (10)  
(b) What is system testing? Explain about special systems tests. (10)
8. (a) Describe in detail about training personnel and training methods. (10)  
(b) Explain about post implementation and site preparation. (10)
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**DE-196****24****DISTANCE EDUCATION****B.C.A./B.C.A(Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****OBJECT ORIENTED PROGRAMMING AND C++  
(2003 onwards)**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

 $(5 \times 20 = 100)$ 

1. (a) Explain the data types used in C++.  
(b) Write a note on Cin and Cout streams.
2. (a) Explain friend function with an example program.  
(b) Discuss about destructor with example.
3. (a) Write a detailed note on this pointer.  
(b) Explain dynamic constructor.
4. (a) Discuss about function overloading in detail.  
(b) Write a note about overloading binary operators.
5. (a) Explain in detail about virtual function.  
(b) What is inheritance? Explain its types.
6. (a) Write a C++ program to perform matrix multiplication.  
(b) Write a C++ program to generate fibonacci series.

7. (a) Write a note on benefits of OOPs.  
(b) How to define and declare the member functions?
  8. (a) What are the problems with pointer reference?  
Discuss.  
(b) Write a C++ program to calculate the factorial of a number.
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**DE-197****25****DISTANCE EDUCATION****B.C.A./B.C.A (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****COMPUTER GRAPHICS****(2003 onwards)**

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

 $(5 \times 20 = 100)$ 

1. (a) Describe the history and applications of computer graphics. (10)  
(b) Explain about various input devices in detail. (10)
2. (a) Explain the simple DDA line drawing algorithm with neat diagram. (10)  
(b) Describe in detail about region filling-techniques. (10)
3. (a) What is transformation principles and explain the two dimensional transformations. (15)  
(b) Write short notes on two dimensional-composite transformations. (5)
4. (a) Explain the following terms in detail.  
(i) Windows and view ports  
(ii) Aspect ratio. (10)  
(b) What is the purpose of convex polygon clipping? Explain in detail. (10)

5. (a) Explain in detail about various three dimensional transformations with diagram. (15)
  - (b) Write short notes on matrix representation in 3-D transformations. (5)
  6. (a) How can you specify projection plane and view volume? Explain. (10)
  - (b) Explain about cohen Sutherland algorithm for 3-D clipping. (10)
  7. (a) Explain about clipping against a finite view volume. (10)
  - (b) Describe about z-buffer algorithm and compare with other algorithms. (10)
  8. (a) Explain about various components of user-interface in detail. (10)
  - (b) Write about information display feedback with examples. (10)
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**DE-198****31****DISTANCE EDUCATION****B.C.A./B.C.A.(Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.****BUSINESS COMMUNICATION****(2003 Onwards)****Time : Three hours****Maximum : 100 marks****Answer any FIVE questions.****All questions carry equal marks.****(5 × 20 = 100)**

1. List out the various types of communication and explain their merits and demerits. (20)
2. Describe with illustrations the different parts of a business letter. (20)
3. (a) Prepare a report for submission to Board of Directors regarding the market potential of computer. (10)  
(b) Define minute. Explain the various points to be borne in mind while preparing it. (10)
4. (a) Write about the special points that are to be observed while writing an essay. (10)  
(b) Write an essay about the scope of job opportunities for computer students. (10)
5. (a) Draft an application for the post of a systems analyst in an export concern. (10)  
(b) State the purpose of attaching bio-data sheet with an application for employment. Draft a specimen form. (10)

6. (a) Explain the essential features of a business order. (10)
- (b) You are running a firm supplying computer peripherals. Write a letter rejecting the order of a dealer giving specific reasons. (10)
7. (a) Draft a letter to the BSNL authority to attend to restore your telephone connection which has failed owing to rain. (10)
- (b) State the meaning of letters of acknowledgement. Explain the need for such letters. (10)
8. (a) Discuss the characteristics of a good speech. (10)
- (b) Draft a speech of inaugurating a trade fair of computer and computer peripherals. (10)
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**DE-199****32**

## DISTANCE EDUCATION

B.C.A/B.C.A.(Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

## WINDOWS AND VISUAL BASIC

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Explain the concepts of windows graphic user interface. And its advantages. (10)  
(b) How can you create menus? Explain with an example. (10)
2. (a) What are the picture attributes? Explain. (10)  
(b) Discuss the functions of print manager. (10)
3. (a) Explain the components of IDE. (10)  
(b) Give short notes on the following.
  - (i) MsgBox
  - (ii) InputBox. (10)
4. (a) What is PIF editor? Explain. (10)  
(b) Write short note on Text Formatting. (10)



5. (a) Write a VB program to check whether the given number is prime or not. (10)  
(b) Explain the IF statement with an example. (10)
6. (a) What are procedures? Explain its types. (10)  
(b) Describe the types of arrays with an example. (10)
7. (a) Write a VB program to create a digital calculator by using control arrays. (10)  
(b) What are the advantages and disadvantages of using graphical method as compared to control method? (10)
8. (a) What is MDI? How do you create an MDI application? (10)  
(b) Explain the following with an example.  
(i) Date and time functions. (5)  
(ii) Format function. (5)
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**DE-200****33**

## DISTANCE EDUCATION

B.C.A/B.C.A (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

## INTERNET AND JAVA PROGRAMMING

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

Each question carries equal marks.

(5 × 20 = 100)

1. (a) Describe the various layers in TCP/IP reference model. (10)  
(b) What is format of an IP address? Explain the various classes of IP addresses. (10)
2. (a) Describe the client/server architecture. (10)  
(b) What is a Web server? Explain the role of web server in working of the web. (10)
3. (a) Describe the uses of Internet for home users. (10)  
(b) What are different types of domain names? Explain each with an example. (10)
4. (a) (i) Explain, with an example, the “while” and “do-while” statement. (5)  
(ii) What do you mean by type casting? Give an example. (5)  
(b) What is an array? How to declare and initialize an array? Give an example. (10)

5. (a) (i) Enumerate the rules for creating identifiers in Java. (5)
- (ii) Explain, with an example, the if-else statement. (5)
- (b) Write a Java program to find the maximum from the given set of numbers. (10)
6. (a) With examples, explain the various types of constructors in Java language. (10)
- (b) What is an applet? Discuss the steps involved in developing and running a local applet. (10)
7. (a) Write a java program, which will read a text and count all occurrences of a particular word. (10)
- (b) Explain, with an example, the single and multilevel inheritance. (10)
8. (a) With suitable examples, the break and continue statements. (10)
- (b) What are input and output streams? Explain them with illustrations. (10)
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**DE-201****34**

## DISTANCE EDUCATION

B.C.A./B.C.A. (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

## RDBMS

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. (a) Expatiate the logical and physical schema. (10)  
(b) Write a note on the following data manipulation languages. (10)
  - (i) Host embedded
  - (ii) Query languages.
2. (a) Describe the various forms of joins. (10)  
(b) (i) Discuss the general form of DSL ALPHA statement. (5)  
(ii) Write the ALPHA statement to find the supplier number and part numbers supplied by those suppliers who operate from Chennai. (5)
3. (a) What are the benefits of RDBMS? (10)  
(b) Write a note on (10)
  - (i) Data dictionary
  - (ii) Table spaces.

4. (a) What are the various characteristics of SQL? Discuss any five aggregate functions with suitable examples. (10)
  - (b) What are unions? When two tables are said to be union compatible, how are the results ordered in a union compatible. (10)
  5. (a) State the various uses of a subquery. What constraints are transferred to the newly created table with a sub query? (10)
  - (b) What are the differences between SQL and SQL\* plus? (10)
  6. (a) Discuss the various types of privileges. (10)
  - (b) Explain the terms referential integrity, with examples. (10)
  7. (a) Explain with an example the SQL commands ALTER TABLE and DROP TABLE. (10)
  - (b) Discuss any five oracle objects. (10)
  8. (a) List the reasons why the null values might be introduced into the database. (10)
  - (b) Write a detail note on query optimization. (10)
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## DISTANCE EDUCATION

B.C.A./B.C.A. (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

## MANAGEMENT PRINCIPLES AND TECHNIQUES

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. (a) What are the functions of management? Explain them and bringing out clearly inter and intra-relationship between them. (10)
- (b) What are the modern trends of organisation? How far does it help to meet the objectives? (10)
2. (a) Define decision making. Discuss the steps of decision making. (10)
- (b) Distinguish between the terms direction, control and coordination. (10)
3. Use simplex method to (20)

Minimize :  $Z = x_2 - 3x_3 + 2x_5$ 

Subject to the constraints :

$$3x_2 - x_3 + 2x_5 \leq 7$$

$$-2x_2 + 4x_3 \leq 12$$

$$-4x_2 + 3x_3 + 8x_5 \leq 10$$

$$x_2, x_3 \text{ \& } x_5 \geq 0$$

4. A company has factories A, B and C which supply warehouses at D, E, F and G. Monthly factory capacities are 160, 150 and 190 units respectively. Monthly warehouse requirements are 80, 90, 110 and 160 units respectively. Unit shipping costs (in rupees) are as follows :

		To			
		D	E	F	G
From	A	42	48	38	37
	B	40	49	52	51
	C	39	38	40	43

Determine the optimum distribution for this company to minimise shipping costs. (20)

5. The owner of a small machine shop has four machinists available to assign to jobs for the day. Five jobs are offered with expected profit for each machinist on each job as follows : (20)

	A	B	C	D	E
1	62	78	50	101	82
2	71	84	61	73	59
3	87	92	111	71	81
4	48	64	87	77	80

Find by using the assignment method, the assignment of machinists to jobs that will result in a maximum profit.

6. Find the critical path. (20)

Task :	1-2	1-3	1-4	2-5	3-4	3-7	4-5	4-6	5-6	5-7	6-7
Time :	20	23	8	19	16	24	0	18	0	4	10

7. For the network given below find the optimum cost schedule for the completion of the project. (20)

Job	Normal		Crash	
	Time	Cost	Time	Cost
	(Days)	(Rs)	(Days)	(Rs)
1-2	10	60	8	120
2-3	9	75	6	150
2-4	7	90	4	150
3-4	6	100	5	140
3-5	9	50	7	80
3-6	10	40	8	70
4-5	6	50	4	70
5-6	7	70	5	110

8. The cost of a machine is Rs. 6100 and its scrap value is Rs. 100. The maintenance costs found from experience are as follows : (20)

Year :	1	2	3	4	5	6	7	8
Maintenance costs (Rs) :	100	250	400	600	900	1,200	1,600	2,000

When should the machine be replaced?

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**DE-8816****16**

## DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION, DECEMBER 2014.

## LAB I : C PROGRAMMING

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Examiner has to select and give ONE question to each Candidate by lot system.

1. (a) There are 10 students in a class. Their names and marks in three different subjects are given. If a student takes more than 40 marks in each subject and the average is more than 50 marks then he is declared 'PASS', otherwise, 'FAIL' write a C program to do the above.
- (b) Write a C program to create a text file and display the contents of the text file.

----- Cut here -----

2. (a) Write a C program to find simple and compound interest using function declaration.
- (b) Write a C program to arrange the given set of names in alphabetical order.

----- Cut here -----

3. (a) Write a menu driven program in C to arrange the given set of numbers in ascending and descending order.
- (b) Write a C program to accept and display your address using structure.

4. (a) Write a C program to find the maximum and minimum in a given set of numbers.
- (b) Write a C program to accept and display your date of birth using structure.

----- Cut here -----

5. (a) Write a C program to print all ASCII characters.
- (b) Write a C program to create and read the records in an address file.

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6. (a) Write a C program to accept and concatenate the given two strings. Also find the length of concatenated string.
- (b) Write a C program to find a bigger number between the two numbers using pointer method.

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7. (a) Write a C program that receives the data such as age and name of person to check the eligibility for voting. Take the condition that if a person is more than 18 years old he is eligible to vote, else display the number of years he has to wait for voting.
- (b) Write a C program to check whether the given word is palindrome or not.

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8. (a) Write a C program to find the factorial of a given number using function declaration.
- (b) Write a C program to display the address and the contents of pointer variable.

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## DISTANCE EDUCATION

B.C.A./B.C.A. (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

## LAB II — C++ AND MS-OFFICE

(2003 onwards)

Time : Three hours

Maximum : 100 marks

Examiner has to select and give ONE question to each candidate by LOT system.

1. (a) Create a class called EMPLOYEE that contains employee number, name, designation, basic pay, deductions (LIC and PF). Include member function to get data from user for n employees. Write a C++ program to prepare payslips for n employees using the following details.

HRA = 1500; DA = 52% of basic pay

Gross pay = Basic pay + HRA + DA

Net pay = Gross pay – Deductions

- (b) Using the MS-word type out the title page of your office automatic book. Format the title page by the following formatting features.
  - (i) Choose appropriate font size and centre each line
  - (ii) Draw border lines
  - (iii) Use color options.

2. (a) Write a C++ menu driven program to display the given set of numbers in ascending or descending order.
- (b) Using MS-word type a letter to be posted to MCA candidates to attend personal contact programme. Format the letter and apply suitable font type and size

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3. (a) Write a C++ program to read and display the students particulars such as Reg no, Name, Age and Sex using class and objects.
- (b) Create a worksheet with the columns :
- Reg no, Name, Age, Marks for 3 subjects, total, average and result.
- (i) Fill the total and average column.
- (ii) Replace the result with pass for average  $\geq 50$  otherwise fail.
- (iii) Sort first by name then age.
- (iv) Find the maximum mark for each subject.

----- Cut here -----

4. (a) Write a C++ program to illustrate such as addition, subtraction, multiplication and division using a member function which are defined out of the scope of a class definition.
- (b) Create a worksheet with the columns :
- Year, sales, expenses
- (i) Draw the graph and mention the appropriate headings.
- (ii) Experiment with other types of graphs by changing your selections.
- (iii) Include a column profit with data values and draw a graph.

5. (a) Write a C++ program to read the derived class data members such as name, roll number, sex, height and weight from the keyboard and display the contents of the class on the screen.
- (b) Create a table ADDRESS with the following fields :  
NAME, AGE, SEX, STREET, CITY, PIN
- (i) Add 5 records.
- (ii) Display the fields NAME, STREET alone.
- (iii) Display the records for AGE > 20 and CITY = 'CHENNAI'.
- (iv) Sort the table in the ascending order of NAME.

----- Cut here -----

6. (a) Write a C++ program to find the square of a given number with different arguments using function overloading.
- (b) Create a table STUDENT with the following fields :  
REG NO, NAME, AGE, SEX, DEGREE,  
PERCENTAGE
- (i) Add 5 records using forms.
- (ii) Display the records for Sex = 'M' and DEGREE = 'MCA'.
- (iii) Display the records fro DEGREE = 'BCA' and NAME like 'm\*'.  
f
- (iv) SORT the table in ascending order of Percentage.

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## DISTANCE EDUCATION

B.C.A./B.C.A. (Lateral) DEGREE EXAMINATION,  
DECEMBER 2014.

Lab III — Oracle and Visual Basic

## ORACLE AND VISUAL BASIC

(Common for All Batches)

Time : Three hours

Maximum : 100 marks

ONE question is given to each candidate by LOT system.

Each question has Two subdivisions.

1. (a) Write and test a VB program to compute the surface area and volume of a sphere given the radius. Use option buttons and INPUT boxes.
- (b) Create a table SALES with salesman number, salesman name, sales amount, commission and date of sales. Evaluate commission using the following conditions.

	Sales	Commission
(i)	< 1000	Nil
(ii)	> 1000 but ≤ 5000	5% of sales
(iii)	> 5000 but ≤ 10,000	10% of sales
(iv)	> 10,000	15% of sales

2. (a) Write a VB program to select candidates for the following four posts based on their qualification.

	Qualification	Post
(i)	Male and PG degree holder	Manager
(ii)	Male, graduate and typing	Clerk
(iii)	Female and PG degree holder	Secretary
(iv)	Female, graduate and typing	Steno

- (b) Create a table PAY and prepare a pay slip for 10 employees.

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3. (a) Write a VB program to do arithmetic operations according to user's choice. Use appropriate controls.

- (b) Create a table NUMBER with the fields number, square of the number, square root of the number, cube and its cube root. Input 5 numbers and compute the corresponding fields and display them.

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4. (a) Write and test a VB program to compute and print either the sum of odd numbers or product the first N natural numbers. Use option button.

- (b) Create a table RESULT with Name, Reg no, three subjects marks, total and result fields. Do the following
- Add 5 records
  - Find total
  - Find result as 'pass' if total  $\geq 150$  and 'fail' if total  $< 150$ .

5. (a) Using the circle method draw 'n' number of ellipses and circles so that they have the appearance of a pair of eyes.  
 (b) Program for finding factorial using PL / SQL.

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6. (a) Write a program in VB to create animation by using MOVE methods and times control objects.  
 (b) Write a program for mark list preparation using PL / SQL.

----- Cut here -----

7. (a) Write a VB program to calculate simple interest or compound interest using three command buttons namely Input, calculate and display.  
 (b) Create a table 'PERSONAL' with name, city, pin and phone number. Do the following :  
 (i) Add 5 records  
 (ii) Display all names without duplication  
 (iii) Display all names who are in a particular city.

----- Cut here -----

8. (a) Write a program in VB to design a calender of any year.  
 (b) Create a 'NUMBER' table with number, Absno, sqrtno, roundno, truncno, sqrno, cubeno as fields. Do the following :  
 (i) Add 5 records  
 (ii) Display all records  
 (iii) Replace 'absno' with absolute value of the given no  
 (iv) Replace 'sqrtno' with square root of the number  
 (v) Similarly replace the remaining field with their corresponding values  
 (vi) Display all the records.