

Computer Systems and Applications

March 2007

Time: 3 Hours

Marks: 100

NB:

1. Attempt either **Part A or Part B. Question no. 1 is compulsory.**
2. In **section I**, attempt **any two** questions from Question Nos. 2 to 5
3. In **section II**, attempt **any two** questions from Question Nos. 6 to 9
4. All answer should be written in the **same** answer-book.
5. Figures to right indicate maximum marks. **All questions carry equal marks**

PART A

Q.1 (a) Answer the following in one sentence: 3

- (i) What is the function of control unit of CPU?
 - (ii) Give two examples of Operating System.
 - (iii) Give full form of ISP.
- (b) Answer the following in C:

- (i) What are the uses of getchar() and putchar() ? 2
 - (ii) What is the difference between break and continue? 2
 - (iii) What are keywords in C? 1
- (c) State whether the following are **true or false**: - 3

- (I) In Windows 95, once a folder is created you can not alter its name.
 - (ii) In MS-WORD, Find and Replace option appears in Tools menu.
 - (iii) By default, MS-WORD saves a document in My Documents folder.
- (d) Answer the following in **FoxPro**:
- (i) Explain the use of: 3
 - (1) INTO (II) DTOC () (iii) LTRIM()
 - (ii) Explain the following: 2
 - (i) INPUT TO (ii) SET DEFAULT TO.

Section 1

Q.2 (a) Explain briefly about the following: 6

- (i) HARD DISK (ii) TCP/IP PROTOCOL (iii) OPERATING SYSTEM.

(b) What is the output of the following C program: 4

- ```
#define m(y) y%2==0?2*y:y/2
main()
(int p=5, q=10, r=3;
q*=m(p);
○ r+=m(q);
○ p+=++q+r--;
printf("%d%d%d\n",p,q,r);)
```

(c) Write a C program to input cost of a machinery and then print a table showing year and depreciation for the first 5 years using reducing balance method. Rate of depreciation is 15 % 6

Q.3 (a) Answer in one or two lines the uses of: 6

- (i) MOUSE (ii) LAN (iii) INTERNET

(b) Rewrite the following sequence of ifo statements using switch 8

- ```
If (code==1)printf("Mathematician\n");
else if(code==2)printf("Computer Programmer\n");
if (code==3)printf("Psychologist\n");
else printf("Doctor\n");
```

(c) Write a program in C to input 25 observations and then print Highest, Lowest and Median. 6

Q.4 (a) State whether the following are True or False: 6

1. MODEM is a software.
2. RAM is non - volatile memory.
3. Every computer requires an Operating system.
4. AOL is a commercial on line service.
5. Hard disk can be write protected.
6. Bulletin Board Service is not part of Internet.

(b) What is the output of the following C program? 4

- main()
 { char x='A';
 float y=112233.55;
 printf("%-3c%+6.2f\n",x,y);
- printf("%4c%-8.0f\n",x,y);j
 (c) Write a C program to input name and taxable income(tin), and then print name, taxable income and income tax(it) where tax schedule is as follows: 4

Taxable Income(tin	Income Tax(it)
First 50,000	Nil
Next 50,000	10%
Next 1,00,000	20%
Excess	30%

Q.5 (a) Explain briefly about following:- 6

- (i)ALU (ii)UNIX (iii) Search Engines
 (b) Write a C program to find and print the sum of: 4
 $22 \times 3 + 42 \times 7 + 62 \times 11 + \dots + 202 \times 39$
 (c) Write a Program in C to input 10 pairs of x and y and then calculate and print Karl Pearson's correlation coefficient using the following the following formula:

Q.5 (a) Explain briefly about following: 6

(b) Write a Program in C to find and print the sum of. 1 2 3
2x3x4
5.....212022 4

(c) Write a C program to input 10 pairs of x and y print regression coefficients byx and bxy using the formula given below: 6

PART " B

Q.1 (a) Answer the following in one sentence: 3

- (i)What is the function of control unit of CPU?
 - (ii) Give two examples of Operating System.
 - (iii) Give full form of ISP.
- (b) Answer the following in MS-EXCEL:

- (i) Explain the use of the following functions. 2
- (i) AND() (ii) LEN()
 - (ii) What is the use of paste special option in Edit menu? 2
 - (iii) What is the use of Auto fill handle? 1
- (c) State whether the following are True or False: 3
- (i)In Windows 95, once a folder is created you can not alter its name.
- (ii) In MS-WORD, Find and Replace option appears in Tools menu.
- (iii) By default, MS-WORD saves a document in My Documents folder.
- (d) Answer the following in Fox-Pro: 3
 - (i) Explain the use of: 3
- (i) INT ()(ii) DTOC() (iii) LTRIM()
- (ii) Explain the following: 2
- (i) INPUT TO (ii) SET DEFAULT TO

Section " I

Q.2 (a) Explain briefly about the following: 6

- (i) HARD DISK (ii) TCP/IP PROTOCOL. (iii) OPERATING SYSTEM.
(b) Answer the following in MS-EXCEL 4

A worksheet contains employee information such as name, basic pay and department entered in columns A, B and C respectively in first 25 rows. In first row heading is entered and in other rows data has been entered.

Explain the steps to compute DA, Additional Pay and Gross pay in columns D,E and F respectively using the policies.

DA= 90 % of basic pay for basic pay not exceeding Rs. 8000. otherwise it is 65 % of basic pay. Additional Pay Rs. 1500 for "SALES" department and Rs. 1200 for other departments. Gross Pay = Basic Pay + DA + Additional Pay

- (c) Answer the following in MS-EXCEL: 6

There is a worksheet where the values of x and its corresponding frequency (f) are entered in cells A2 to B6 and C2 to C6 respectively. Explain the procedure to find mean (\bar{x}) and mean deviation from mean, showing computations of fx and $f|x - \bar{x}|$ in columns D and E respectively using the following formula.

Q.3 (a) Answer in one or two lines the uses of : - 6

(i) MOUSE (ii) LAN (iii) INTERNET

(b) Answer the following in MS-EXCEL : - 4

Explain how to create link between two workbooks and the purpose for linking workbooks

(c) Answer the following in MS-EXCEL 6

Consider the following worksheet showing original value of an asset, its useful life and rate of depreciation W annum.

	A	B	C
1	Asset	Life in Years	Rate of Depreciation
2	500000	8	10%
3			

Using reducing balance method, explain the steps to display Year wise depreciation and depreciated value (WDV) for the first eight years of life of asset. Use your own cell addresses.

Q.4 (a) State whether the following are **true** or **false** : - 6

- (i) MODEM is a software.
- (ii) RAM is non - volatile memory.
- (iii) Every computer requires an Operating system.
- (iv) AOL is a commercial on line service.
- (v) Hard disk can be write protected.
- (vi) Bulletin Board Service is not part of Internet.

(b) Answer the following in MS-EXCEL: 4

Explain with examples the following functions. (i) NPV() (ii) ROUND()
(iii) SUM() (iv) TRIM()

(c) Answer the following in MS-EXCEL 6

There is a worksheet containing cricketer's details such as name, country, no. of matches played in columns A, B, C respectively. This worksheet contains details of 60 players entered in columns 2 to 61. Write steps to,

- (i) Rearrange the worksheet in alphabetical order of country and in country in the descending order of no. of matches played.
- (ii) Show records of players from "Sri Lanka"
- (iii) Show records of players who have played more than 100 matches.

Q.5 (a) Explain briefly about the following: 6

- (i) ALU (ii) UNIX (iii) Search Engines.
(b) Answer the following in MS-EXCEL. 4
State whether the following are True or False:
 - (i) Paste special cannot be used with Cut option.
 - (ii) A Pivot tables are updated automatically.
 - (iii) Once the file is saved it closes the file and gives a blank sheet.
 - (iv) A work book can contain at most three worksheets.
 - (v) A function cannot contain another function in its argument.
- (c) Answer the following in MS-EXCEL 4
The following data of No. of students in a College has been entered in a MS Excel worksheet:

	A	B	C	D	E
1	Year	F.Y.B.Com	S.Y.B.Com	T.Y.B.Com	Total
2	2001	1200	920	650	
3	2002	1220	1000	900	
4	2003	1320	1100	970	

Based on these values write steps to

- (i) Find total number of students for each year.
- (ii) Pie chart of number of students for the year 2003.
- (iii) Line chart for F.Y.B. Com and T.Y.B.Com students.

SECTION II

Q.6 (a) What is the use of start button in Windows 95? 2

(b) What is the use of Tools menu in MSâ€™WORD? Explain the use -of any three options. 4

(c) Write FoxPro commands for the following: 10

- o (i) To create a FoxPro table called TEASAL in floppy disk kept in Drive A.
- o (ii) To list the first five records from the current table.
- o (iii) To close only the index files.
- o (iv) To find the total of a numeric field called AC_BAL and store it in S.
- o (v) To mark the records for deletion from record no. 5 to 15.
- o (vi) To position the record pointer on the first record where field ENAME is "ANU".
- o (vii) To send the output of @ ROW,COL SAY command to the printer.
- o (viii) To display the numeric value stored in Y, correct up to four digits after decimals.
- o (ix) To prevent automatic movement of cursor to the next field while entering data.
- o (x) To convert every letter in a field called CITY into uppercase in every record.

Q.7 (a) What is Taskbar in Windows-95? 2

(b) Explain the use of New option and print preview option of file menu in MSâ€™WORD 4

(c) There is a table called WAGES.dbf containing fields worker no. (WNO,N,4,0), Name (NAME, C, 20), Number of days absent for work during a month(DABS,N,2,0) and his monthly basic pay (MBASIC, N,10,2). Write a FoxPro program to print a report showing worker no., name and his proportional basic pay assuming 30 working days in a month. 4

(d) Explain the difference between the following in FoxPro: 6

(i) ACCEPT TO & INPUT TO (ii) ? & TEXT/ENDTEXT (iii) STORE TO & =

Q.8 (a) What is the purpose of shortcuts in Windows-95? 2

(b) In MS-WORD, Explain the procedure to copy the first paragraph of page 10 to the beginning of page 15 of the same document 4

- (i) To search for a given word in the selected text.
- (ii) To cancel the last editing.
- (iii) To open an existing file.
- (iv) To add bullets to the selected text.

(c) There are 2 tables first one called "COSSHARE.dbf" containing fields, Identity no. (CID, C, 10), Name of share holder (SNAME, C, 40), No. of shares held (NSHARES, N, 5, 0), and Face value per share (FVAL, N, 10, 2). Another table "CODIV.dbf." containing fields, Identity no. (CID, C, 10), Address of the shareholder (ADDR, C, 40) and Dividend payable (DIVID, N, 10, 2). Write command in FoxPro for the following.

(i) To index both the tables according to identity no. 2

(ii) To update the field dividend payable in CODIV.dbf by computing dividend @4% of face value of shares held, where no. of shares and face value per share are in COSSHARE.dbf. 2

(d) There is a table called TEST.dbf containing fields roll no.(RNO,N,4), name (NAME, C, 20), and marks in 3 tests (T1, T2, T3 all Numeric, 3, 0). Write a FoxPro program to replace mark as 35 whenever it is 31, 32, 33, or 34 in every test in the table and then print a report showing roll. no., name and marks in 3 tests of only those who are getting 35 or more in each subject. 6

Q.9 (a) Explain how to create a folder in Windows -95? 2

(b) How to perform the following operations with reference to MS-WORD? 4

- (i) To search for a given word in the selected text.

- (ii) To cancel the last editing.
- (iii) To open an existing file.
- (iv) To add bullets to the selected text.
- (c) Explain the following commands or functions in FoxPro: 4
- (i) SET TALK ON/OFF (ii) EOF () (iii) COUNT (iv) SQRT().
- (d) There exists a table SALARY.dbf containing fields Employee no,(EN,N,5,0) Name (NAME, C, 30) and Basic pay (BASIC, N, 10, 2) and Date of joining (DTJ, D, 8). Write a program in FoxPro to add new records to this table. This program should allow the user to continue adding new record as long as he wants. Basic pay should be accepted between 0 and 15000 only.