COMPUTER STUDIES
PAPER 1
JAN 2016 Shikokoti 5 : Friday 22/01/2016 5:00Am – 6:00Am

1. Describe the purpose of each of the following computer functional units: (2mks)
   - a) Control
   - b) Storage

2. Explain how each of the following would affect the suitability of a room for use as a computer room: (2mks)

   - a) Burglar proofed door

   - b) Availability of taps and sinks in the room

3. State three data representation codes used in computers   (3mks)

4. State two types of documentation in program development and give the purpose of each.   (4mks)

5. Suppose a 5 element array A contains the values 9, 12, 17, 7 and 20. Find the value in a after executing the loop below:

   ```
   Repeat for k = 1 to 4
   Set A [k +1]: = A [k]
   [End of loop]
   ```
   (3mks)

6. State any three activities that occur in a program compilation process (3mks)

7. The formula = k20 + P$ 18 was typed in cell L21 and then copied to cell M24 of a spreadsheet. Write the formula as it appears in cell M24.   (2mks)

8. State two ways in which a computer may be used in efficient running of a hospital   (2mks)

9. List three disadvantage of using traditional file management method   (3mks)

10. Give one disadvantage of a single processor multi-user system   (1mk)

11. List three differences between a micro-computer and super-computer.   (3mks)

12. State and explain two reasons why word processing is one of the most common applications of many computer users.   (2mks)

13. write- 1 in twos compliment notation in byte form   (4mks)

14. Explain the following input/output terms as used in computer systems. Give an example for each   (4mks)
    - a) Read
    - b) Write

15. State two disadvantages of networking.

8(a) Describe the two types of microforms. [2]

(b) Give two advantages of Magnetic Ink Character Reader (MICR) [1]

(c) State two advantages of CD-ROMs over floppy disks. [1]

9(a) Give two advantages of a dot matrix printer over a laser printer. [2]

(c) Outline any two advantages of a light pen as an input device? [1]

10(a) What is a utility program? [1]

(b) What is an operating system? [1]

(c) Give an example of an internal DOS command and an external DOS command. [1]

(e) Explain the meaning of the following DOS commands? [2]
   (i) DIR

   (ii) DEL

11(a) Explain the following terms as used in programming.
   (i) Source code. [1]

   (ii) Object code. [1]

(c) Explain why a compiled program will normally execute faster than an interpreted Program. [2]

12.(a) Define the term word processing? [1]

(b) Define the following terms as used in word processing. [1]
(i) Widow

13.Briefly describe two applications in which it is appropriate to use batch processing to process a file. Explain why serial processing is appropriate in each case. [2]

14.Define the term Internet [1]

15.A company advertises vacant positions for the following responsibilities.
a) Keeping the database up-to-date by the adding new records, modifying or deleting unnecessary records
b) Maintaining and updating the software to meet day-to-day requirements while overcoming challenges
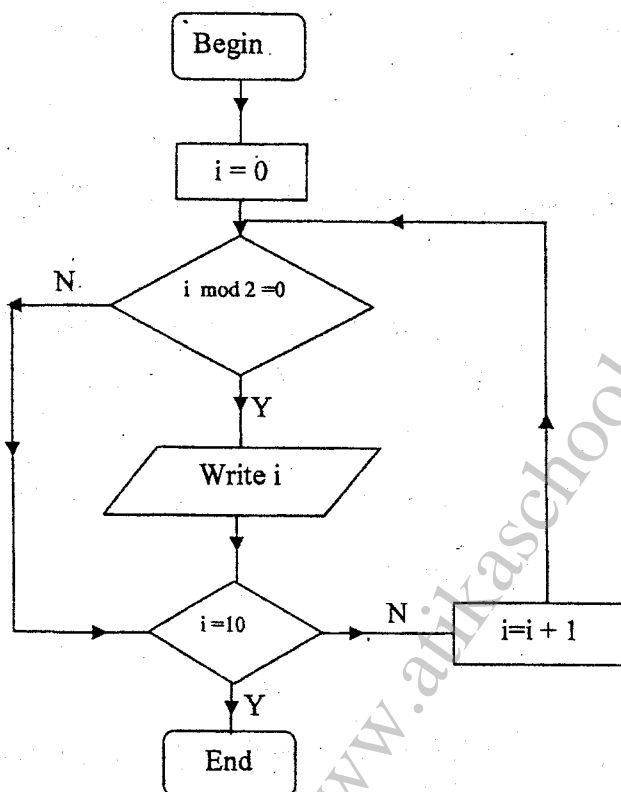c) Maintaining and updating information on the website to meet the new demands by the users.

State the job title for the persons to be employed befitting the above required responsibilities. [3]

Answer question 16 (compulsory) and any other three questions

16.(a) State the output of the following flowchart [3]
(Show your dry run.)

(b) State three characteristics of low level languages [3]

(c) State two differences between 3rd generation languages with those of 4th generation.
[2]

(d) Describe **two** differences between the **while..do** and the **repeat..until** statements .

[2]

(e) Describe the following program testing methods. [3]

    i)   Desk Check

    ii)   Dry run

    iii)   Walk through

(f) State any two disadvantages of flow charts [2]

17. Describe four features that are to be found in a standard database management system (DBMS). [4]

b) The following is an extract of a select query (QBE) in Microsoft Access, about a Hospital Database.

i) Other than **select** queries, name two other types of queries. [2]

ii) Write an expression that will make the query return the age of patients. [2]

(c) Explain the following concepts as used in a spreadsheet.
　　　　(i)　　Automatic recalculation.　　　　　　　　　　[1]

　　　　(ii)　 What if analysis.　　　　　　　　　　　　　[1]

　　　　(iii)　Label　　　　　　　　　　　　　　　　　[1]

　　　　(iv)　 Value　　　　　　　　　　　　　　　　　[1]

　　　　(v)　　Formula　　　　　　　　　　　　　　　[1]

(d) What is meant by mail merging?　　　　　　　　　　　[2]

18. (a) Describe **three** advantages of using computers in shops e.g. supermarkets.

[3]

   (b) Define the following.   [3]
      (i) Computer Crime.

      (ii) Data privacy.

   (i)   Data security.

   (c) (i) State any three duties of a Database Administrator.   [3]

   (c) Discuss the following issues, which results from use of computers.   [3]
      i) Computer changes jobs.

      ii) Computer creates job.

   iii) Computer costs job.

   (d) Identify and explain three ways through which computer can be used in the medical
      field.   [3]

19. (a) Describe the following ways of processing.

[2]

     i.   Batch processing.

     ii.   Real time processing.

(b) Differentiate between Multi programming and multi processing operating system.

[2]

(d) Describe the following file organization methods.

    (i) Serial   [3]

    (ii) Sequential.

    (iii) Random.

(e). Use the two's complement to solve the following which is in decimal.   [2]
    50 - 25=

f) Bit patterns can be interpreted in a number of different ways. A computer word contains the bit pattern 0011 0110.
What is its decimal value if it represents:
(i) a pure binary integer

[1]

(ii) a BCD (Binary Coded Decimal)?

[1]

(b) Give **one** advantage of BCD over pure binary.

[1]

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