MODULE 5

DATA FLOW DIAGRAMS

OBJECTIVE QUESTIONS

There are 4 alternative answers to each question. One of them is correct. Pick the correct answer. Do not guess. A key is given at the end of the module for you to verify your answer

LEARNING UNIT 1

5.1.1 In a DFD external entities are represented by a
   (a) rectangle
   (b) ellipse
   (c) diamond shaped box
   (d) circle

5.1.2 A data flow can
   (a) only emanate from an external entity
   (b) only terminate in an external entity
   (c) may emanate and terminate in an external entity
   (d) may either emanate or terminate in an external entity but not both

5.1.3 A rectangle in a DFD represents
   (a) a process
   (b) a data store
   (c) an external entity
   (d) an input unit

5.1.4 External Entities may be a
   (a) source of input data only
   (b) source of input data or destination of results
   (c) destination of results only
   (d) repository of data

5.1.5 By an external entity we mean a
  (a) unit outside the system being designed which can be controlled by an analyst
  (b) unit outside the system whose behavior is independent of the system being designed
  (c) a unit external to the system being designed
  (d) a unit which is not part of a DFD

5.1.6 A data store in a DFD represents
  (a) a sequential file
  (b) a disk store
  (c) a repository of data
  (d) a random access memory

5.1.7 A data flow can
  (a) only enter a data store
  (b) only leave a data store
  (c) enter or leave a data store
  (d) either enter or leave a data store but not both

5.1.8 A data cannot flow between a store and
  (i) a store
  (ii) a process
  (iii) an external entity
    (a) i and iii   (b) i and ii
    (c) ii and iii   (d) ii

**5.1.9 Data cannot flow between two data stores because**
  (a) it is not allowed in a DFD
  (b) a data store is a passive repository of data
  (c) data can get corrupted
  (d) they will get merged

5.1.10 Data cannot flow from an external entity to an external entity because
  (a) it will get corrupted
  (b) it is not allowed in DFD
  (c) an external entity has no mechanism to read or write
  (d) both are outside the context of the system

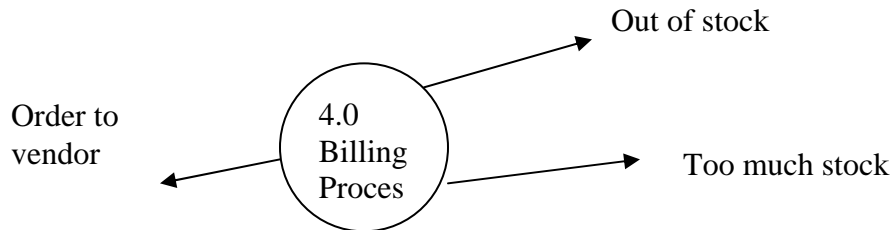**5.1.11 The following portion of a DFD is not correct as**
  (a) there is no output data flow from the process
  (b) there are three data flow inputs to the process
 (c) there is no external entity
  (d) there is no data store
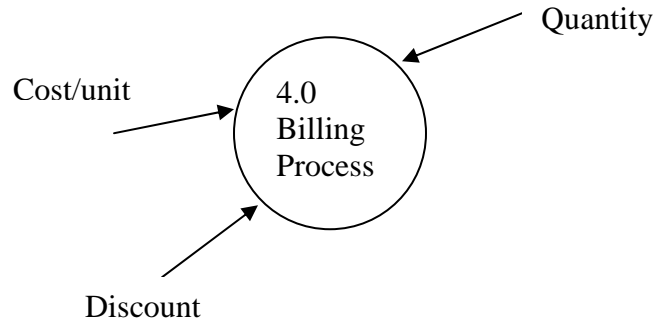
5.1.12 The following portion of a DFD is not correct as

    (a) there are many data flows out of the process

    (b) there are no input data flows to the process

    (c) the output does not go to an external entity

    (d) there is no data store
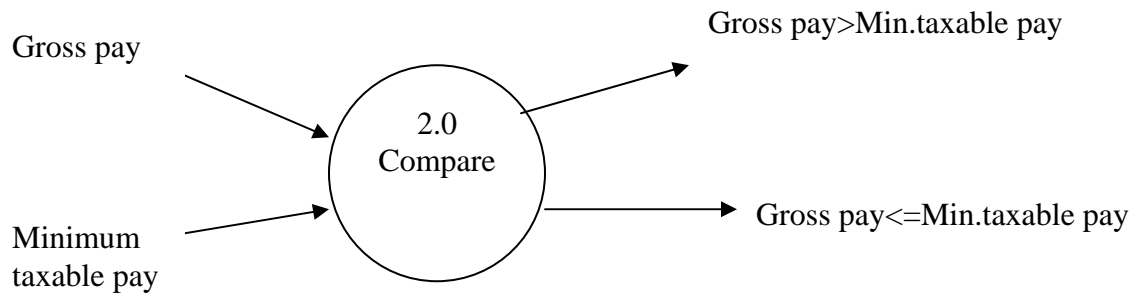

5.1.13 The following portion of DFD is wrong as

    (a) it has only one input

    (b) it writes and reads from the same data store

    (c) the process name is missing

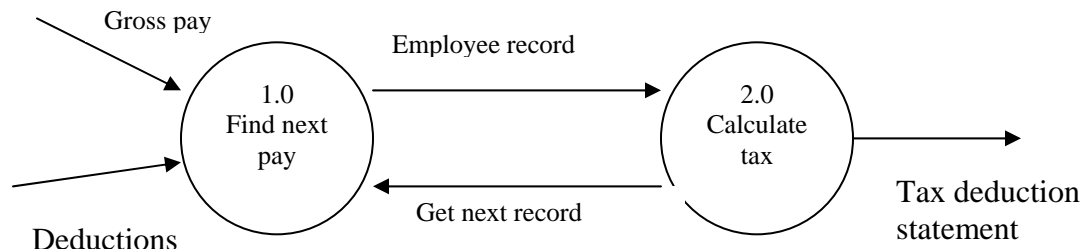   (d) output data flows to two external entities
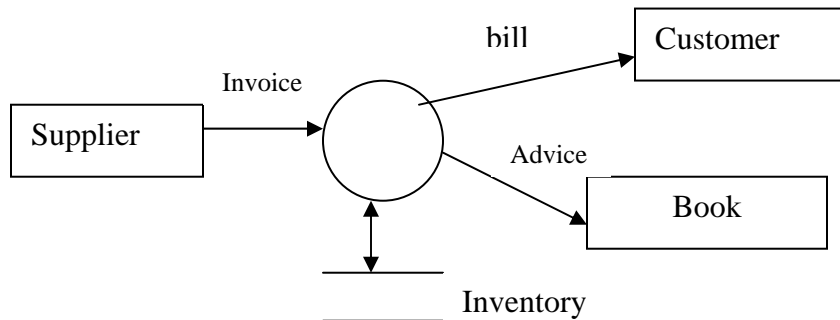
5.1.14 The following process diagram in a DFD is incorrect because
  - (a) the process is a single decision
  - (b) the process is not specified correctly
  - (c) there are too many input data flows
  - (d) the process does not refer to a data store

Gross pay

Gross pay>Min.taxable pay

2.0
Compare

Minimum
taxable pay

Gross pay<=Min.taxable pay

5.1.15 The following portion of a DFD is incorrect because
  - (a) the processes do not refer to a data store
  - (b) there is a loop between the two processes
  - (c) the processes are not specified correctly
  - (d) this structure is disallowed in a DFD

Gross pay

Employee record

1.0
Find next
pay

2.0
Calculate
tax

Get next record

Deductions

Tax deduction
statement

5.1.16   Data flow in a DFD must have
  - **(i) an arrow showing direction of flow of data**
  - **(ii) a meaningful name**
  - **(iii) a label such as: xyz**
  - **(iv) no arrows as they are confusing**
    - (a) i and iii   (b) ii and iv
    - (c) iii and iv   (d) i and ii

LEARNING UNIT 2

5.2.1 A context diagram
    (a) describes the context of a system
    (b) is a DFD which gives an overview of the system
    (c) is a detailed description of a system
    (d) is not used in drawing a detailed DFD

5.2.2 A context diagram is used
    (a) as the first step in developing a detailed DFD of a system
    (b) in systems analysis of very complex systems
    (c) as an aid to system design
    (d) as an aid to programmers

5.2.3 By levelling a DFD we mean
    (a) splitting it into different levels
    (b) make its structure uniform
    (c) expanding a process into one with more sub-processes giving more detail
    (d) summarizing a DFD to specify only the essentials

5.2.4 A DFD is normally levelled as
    (a) it is a good idea in design
    (b) it is recommended by many experts
    (c) it is easy to do it
    (e) it is easier to read and understand a number of smaller DFDs than one large DFD

5.2.5 A DFD is levelled by
    (a) examining complex processes in a DFD and expanding them into new DFDs with more processes which are easy to understand
    (b) merging a number of simple processes in a DFD into a complex processes in a new DFD
    (c) expanding the functions of a number of external entities into simpler functions
    (d) splitting a number of data flows into simpler data flows

5.2.6 When a DFD is levelled no new
    (a) data stores may appear
    (b) external entities may appear
    (c) processes may appear
    (d) data flows may appear

5.2.7 When a DFD is levelled
(a) new external entities may be required
(b) no new processes are allowed
(c) no new data flows are allowed
(d) new data stores may be necessary and are allowed

5.2.8 When a DFD is levelled it is a good idea not to
(a) be concerned about the number of new processes at the next level
(b) allow more than 5 to 10 new processes at the next level for each expanded process
(c) allow new data stores at the next level
(d) allow any new processes at the next level

5.2.9 When a process is expanded during levelling
(a) data flows entering it are replaced
(b) all data stores used by it are replaced
(c) all data flows entering it must also enter the levelled DFD
(d) all external entities used by it are replaced

LEARNING UNIT 3

5.3.1 Before developing a logical DFD it is a good idea to
a) develop a physical DFD
b) develop a system flow chart
c) determine the contents of all data stores
d) find out user's preferences

5.3.2 A physical DFD specifies
(a) what processes will be used
(b) who generates data and who processes it
(c) what each person in an organization does
(d) which data will be generated

5.3.3 A physical DFD
(a) has no means of showing material flow
(b) does not concern itself with material flow
(c) can show only stored material
(d) can show the flow of material

KEY TO OBJECTIVE QUESTIONS

5.1.1 a	5.1.2 c	5.1.3 c	5.1.4 b	5.1.5 c	5.1.6 c
5.1.7 c	5.1.8 a	5.1.9 d	5.1.10 d	5.1.11 a	5.1.12 b
5.1.13 c	5.1.14 a	5.1.15 b	5.1.16 d	5.2.1 b	5.2.2 a
5.2.3 c	5.2.4 d	5.2.5 a	5.2.6 b	5.2.7 d	5.2.8 b
5.2.9 c	5.3.1 a	5.3.2 b	5.3.3 d		