Section 1

Answer the following multiple choice questions by selecting the letter that matches the answer. These multiple choice questions are worth one mark each.

There is no need to justify your answers or rewrite the questions.

Note to students: The 'real' exam will have 20 questions in this section.

1. The process of developing and maintaining an information system best describes:
   a. joint application design.
   b. prototyping.
   c. information systems analysis and design.
   d. information technology infrastructure development.
   e. systems implementation.

2. The phase of the project management process in which activities are performed to assess the size, scope, and complexity of the project and to establish procedures to support later project activities best defines:
   a. project initiation.
   b. scope development.
   c. project planning.
   d. project assessment.
   e. project design.

3. A document prepared for the customer during project initiation and planning that describes what the project will deliver and outlines generally at a high level all work required to complete the project is the:
   a. Information Systems Plan.
   b. Statement of Work.
   c. Mission Statement.
   d. Baseline Project Plan.
   e. Systems Service Request.

4. Which of the following can be considered an advantage of open-ended questions?
   a. The interviewer can explore unexpected lines of inquiry.
   b. Open-ended questions often put the interviewee at ease.
   c. The interviewee has a sense of involvement and control in the interview.
   d. Interviewees can respond in their own words using their own structure.
   e. All of the above are correct.
5. CASE tools designed to support the systems planning and selection, systems analysis, and systems design phases of the systems development life cycle best describes:

a. cross life cycle CASE.
b. upper CASE.
c. lower CASE.
d. integrated CASE.
e. top-down CASE.

6. An attribute (or combination of attributes) that uniquely identifies each instance of an entity type defines:

a. data element occurrence.
b. trigger.
c. candidate key.
d. associative entity.
e. data marker.

7. An organization should acquire software from enterprise-wide solution providers:

a. when the supported task is generic.
b. when system software and utilities are needed.
c. when the task requires custom support and the system can’t be built internally.
d. when the resources and staff are available and the system must be built from scratch.
e. for complete systems that cross functional boundaries.

8. Which part of the design specification explains to those who will actually develop the final form why this form exists and how it will be used so that they can make the appropriate implementation decisions?

a. System description
b. Narrative overview
c. Sample design
d. Testing and usability assessment
e. Project overview

9. An attribute that appears as a nonkey attribute in one relation and as a primary key attribute (or part of a primary key) in another relation is a:

a. foreign key.
b. candidate key.
c. pointer.
d. relationship key.
e. marker.
10. The process of bringing together all of the modules that compose a program for testing purposes is referred to as:
   a. unity testing.
   b. integration testing.
   c. system testing.
   d. implementation.
   e. stub testing.

11. Which of the following represents how an object acts and reacts?
   a. Behavior
   b. Class
   c. State
   d. Encapsulation
   e. Environment

12. Measurement of the ‘cost of poor quality’ can be broken down into four elements:
   a. maintenance, testing, internal failure, external failure
   b. support, appraisal, training, testing
   c. prevention, appraisal, internal failure, external failure
   d. all of the above
   e. none of the above
Note to students: The 'real' exam will have case study style questions with multi choice questions like those shown here. However the case studies may be on different topics and have questions of different mark value.

Case Study E R Diagrams

Consider the following diagram and then answer the questions.

**Figure 6.14** E-R Diagram for Problem and Exercise 5

13. How many TASKS are included in a PROJECT??

   a. zero or one  
   b. one and only one  
   c. one or many  
   d. zero or many

14. What would be an appropriate identifier for TOOL?

   a. Tool_Name  
   b. Manufacturer  
   c. Serial_Number  
   d. None of the above
15. Which of the following printers would you use to produce a report similar to the Quarterly Sales Report (above), that looks exactly as it does on the display screen?

a. ink-jet printer  
b. laser printer  
c. Impact printer  
d. a. or b.

16. Which of the following is NOT a suggested method for highlighting information in a form or report?

a. blinking and audible tones  
b. colour differences  
c. italicizing  
d. reverse video
Case Study Database Design  

**Figure 9.12a** Representing an M:N Relationship — E-R Diagram

17. During database design, the ERD shown above would be converted into which of the following relations?

   a. Order, Product, OrderLine  
   b. Order, Product  
   c. Order, Product, Requests  
   d. none of the above

18. A single attribute name that is used for two or more different attributes is a:

   a. synonym  
   b. primary key  
   c. index  
   d. homonym
**Case Study Process Modelling** 9 Marks

A university Class Registration System receives requests from students for details of available courses. The system asks the applicable department for a list of available courses. Students receive course schedule details in return.

19. The following sources/sinks (external entities) should appear on the Context Level Data Flow Diagram (D.F.D.) for this case:

   a. Schedule, Department, Course
   b. Course, Department, Student
   c. Student, Department
   d. All of the above
   e. None of the above

20. Which of the following data flows should appear on the Context Level D.F.D. for this case?

   a. Student Details, Receipt
   b. Course Request, Class Schedule, List of Courses
   c. Schedule, Department Report, Student Details
   d. All of the above
   e. None of the above

**CASE STUDY PROJECT FEASIBILITY** 4 Marks

Note to students: You may have a question on this topic (*TVM and NPV*). Please ensure you take a non-programmable calculator to the exam.