



Rewarding Learning

ADVANCED SUBSIDIARY (AS)
General Certificate of Education

Centre Number

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Candidate Number

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Digital Technology

Assessment Unit AS 1

assessing

Approaches to
System Development



[SDT11]

SDT11

Assessment

TIME

1 hour 30 minutes.

Assessment Level of Control:

Tick the relevant box (✓)

Controlled Conditions	
Other	

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

You must answer the questions in the spaces provided.

Do not write outside the boxed area on each page or on blank pages.

Complete in black ink only. **Do not write with a gel pen.**

Answer **all five** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in Questions **2(e)**, **4(e)** and **5(b)**.



1 One of the causes of the software crisis was that software frequently failed to meet the user requirements.

(a) Identify three other causes of the software crisis.

1. _____

2. _____

3. _____

_____ [3]

One of the responsibilities of a systems analyst is to carry out fact-finding.

(b) Identify two other responsibilities of the systems analyst.

1. _____

2. _____

_____ [2]



(c) Describe the main features of each of the following methods of fact-finding.

Questionnaires

Document sampling

[6]



2 A retail company implements a new billing system.

(a) Explain what is meant by each of the following.

A functional user requirement

A non-functional user requirement

[2]

(b) The following table shows some of the user requirements identified during the analysis stage for the billing system.

Reference	Description
R213	Users can change the default login password after first logging in
R347	Every user access to the system will be recorded in an audit trail
R399	The system must integrate with the company's banking system to record payments in real-time
R477	The system will allow users to record customer payments
R859	Privacy of personal data will be adequately protected

Complete the following table. The first line has been completed for you.

Reference	Functional Requirement	Non-functional Requirement
R213		✓
R347		
R399		
R477		
R859		

[4]



(c) Documentation was produced for the new system.

Identify four main components of user documentation.

1. _____
2. _____
3. _____
4. _____ [4]

(d) The system was tested before being implemented.

Explain what is meant by each of the following.

System testing

Acceptance testing

[6]

[Turn over



(f) Describe the main features of each of the following.

Corrective maintenance

Perfective maintenance

[6]



3 Project management plays an important part in software development.

(a) Describe two of the main features of project management.

1. _____

2. _____

_____ [6]



Gantt charts and critical path analysis can be used to support project management.

(b) Explain the purpose of a Gantt chart.

[4]

[Turn over



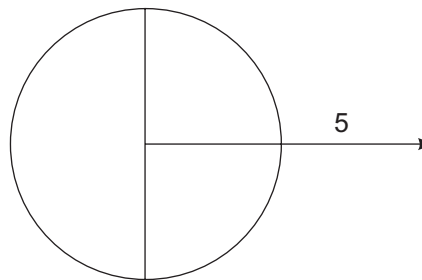
(c) A network diagram is used in critical path analysis.

The following table refers to the components of a node in a network diagram.

Reference	Component
1	Earliest start time
2	Elapsed time of task
3	Latest finish time
4	Node number
5	

(i) Complete the table above by filling in the name of the fifth component. [1]

(ii) Using the table above, complete the network node below by inserting the numbers 1 to 4 in the appropriate positions.



[4]



4 A typical Integrated Development Environment (IDE) includes a source code editor and a compiler.

(a) Identify three other features of a typical IDE.

1. _____
2. _____
3. _____ [3]

(b) Describe the main features of each of the following.

A source code editor





A compiler

[8]

Iteration is one of the three fundamental programming concepts.

(c) Name and describe the two other fundamental programming concepts.

Name _____

Description _____

Name _____

Description _____

[6]

[Turn over



5 (a) Explain the following object-oriented programming terms.

Object

Method

Class

[9]



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Question Number	Marks
1	
2	
3	
4	
5	

Total Marks	
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Examiner Number

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