



Rewarding Learning

ADVANCED

General Certificate of Education

Centre Number

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Candidate Number

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# Software Systems Development

Unit AS 1

Introduction to Object Oriented Development



SDV11

[SDV11]

Assessment

### TIME

2 hours.

### 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.

Write your answers in the spaces provided in this question paper.

Answer **all eight** 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.

### ADVICE TO CANDIDATES

You are advised to take account of the marks for each part question in allocating the available examination time.

For Examiner's use only			
Question	Marks available	Marks	Remark
1	6		
2	10		
3	25		
4	17		
5	8		
6	9		
7	13		
8	12		
<b>Total</b>	<b>100</b>		

1 The following statements are either true or false. Write the word **true** or **false** beside each statement in the table below.

Examiner Only	
Marks	Remark

Statement	true/false
Overloaded methods in a class must have the same return type.	
Constructors in a class are used to initialise the data members of an object and can be overloaded.	
A static method or static variable in a class can be accessed using the class name and without creating an instance of the class.	
A class that is defined as abstract must only contain abstract members.	
In exception handling code, the <i>finally</i> block is always executed regardless of whether an exception is thrown or not.	
<p>The output from the following pseudo code is 99.</p> <pre>(main method) void main(){     int [] nums = new int[5]     nums[4] = 99     amendArray (nums)     output nums[4] } void amendArray (int [] nums){     nums[4] = 100 }</pre>	

[6]

2 (a) A linear / sequential search may be used to locate a required value in an array.

(i) Give one reason why this is not efficient when searching a large **sorted** array.

\_\_\_\_\_ [1]

(ii) Name an efficient technique, with which you are familiar, that is recommended for searching a large **sorted** array.

\_\_\_\_\_ [1]



3 Pizza Hub makes small, medium and large margherita pizzas to which customers may add up to four extra toppings. The range of toppings available is numbered from 1 to 9.

(a) A pizza class is required to hold details of requested pizza types. Given the following fields for this class:

```
class Pizza{  
    private String pizzaCode;  
    private int noRequested;
```

(i) Write the code for the parameterised / field constructor for the class Pizza.

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[3]

Examiner Only	
Marks	Remark







Examiner Only	
Marks	Remark

4 A class PizzaOrder, that makes use of the class Pizza from **Question 3**, is required to track customer orders, many of which are for multiple types of pizza. Orders may be for collection or 'sit-in'. An extra charge of 50p per pizza is charged if sitting in.

```
class PizzaOrder{
    private int      orderNo;
    private Pizza[] pizzaArray;
    private Boolean  sitIn;
    private String   orderSurname;
```

(a) How would the following items at position x of the pizza array be referenced?

(i) The pizza code

\_\_\_\_\_ [1]

(ii) The number of pizzas requested for that pizza code

\_\_\_\_\_ [1]

(b) Write the code for the method, TotalNoPizzas, that will return the **total** number of pizzas in **an order**.

For example, a pizza order could contain a pizza array with the following values:

<b>pizzaCode</b>	<b>noRequested</b>
M52	1
S632	3
L	1

The total number of pizzas in this order is 5.

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(d) Which three order details must be included in the return of the ToString method to aid the identification of the customer's pizzas when boxed for collection?

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[3]

Examiner Only	
Marks	Remark





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**(Questions continue overleaf)**







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**THIS IS THE END OF THE QUESTION PAPER**

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