

CANDIDATE
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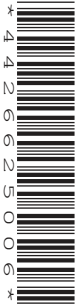
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APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/12

Paper 1

May/June 2017

1 hour 15 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

You may use an HB pencil for any diagrams, graphs or rough working.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

The number of marks is given in brackets [] at the end of each question or part question.

The businesses described in this paper are entirely fictitious.

This document consists of **15** printed pages and **1** blank page.

Scenario 1**Questions 1, 2, 3, 4, 5, 6 and 7**

The University School of Jakarta has 350 students. The Principal of the school wants to introduce procedures whereby all her teachers will use computers to store records about their students and write reports. These reports are to be uploaded to the school's website so that parents can log in securely and view their child's report. When a teacher uploads their teaching group's reports they need to send a message to the Principal.

Students are assessed using teacher produced tests but answer on the computer screen. They sit at the computer and type in their responses. The teachers download the students' answers at the end of the assessment and mark them as usual. The results will be stored in a computer file.

One of the provisions of data protection legislation is that data should be kept secure. Ferdian, an ICT student, thinks that as each student has a student number consisting of three digits, it would be useful to disguise this in some way.

The ICT rooms which will be used for the assessments all need to have air conditioning systems.

- 1 A medium will need to be chosen to store the student files.

Tick the **four** most accurate statements given below.

	✓
A hard disk provides direct access.	
A CD ROM stores several Gigabytes of data.	
A Blu-ray disk stores less data than a DVD.	
A magnetic tape has quicker data access than a hard disk.	
A magnetic tape is a suitable medium for storing backups of server data.	
A CD RW cannot be overwritten.	
Blu-ray disks are not used to store data.	
A pen drive can store more data than a CD.	
Flash memory cards are used in mobile (cell) phones.	
Solid state drives are more prone to failure than magnetic media.	

[4]

- 2 Tick the **four** most accurate statements given below about databases.

	✓
Data files are often converted to a common text format in order that they can be exported to another software package.	
Validation is to check that data is reasonable.	
Verification is to check that data is correct.	
A range check is a verification check.	
Comparing two versions of the same input data is a type of verification.	
Charts are never exported from a database into another software package.	
OR and NOT are mathematical operators.	
It is only possible to sort data on one criterion.	
“Several to several” is a type of relationship.	
In order to create a relational database you have to identify a key field.	

[4]

3 Apart from databases, describe, including their uses, **four** different types of software which will be needed by a teacher using the new procedures. Each use must be different.

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- 5 For Ferdian's first attempt at disguising the Student number he has developed a spreadsheet. This is shown below. The Student number is stored as a text string.

	D	E	F	G	H	I	J	K
1		Student number						Disguised Student number
2		456		4	5	6		654
3								

In G2, H2 and I2, he has used different functions to extract parts of the Student number string. In K2 he has put these parts back together in reverse order.

- (a) Write down the formula he has used in cell G2.

= [2]

- (b) Write down the formula he has used in cell H2.

= [3]

- (c) Write down the formula he has used in cell I2.

= [2]

- (d) Write down the formula he has used in cell K2.

= [3]

Scenario 2**Question 8, 9 and 10**

KL Newspapers owns the Malaysian Daily Moon. It uses the latest technology to print the magazine. It uses computerised plate making and typesetting techniques. Typesetting involves the editor using a computer to set the layout of a page.

The printing plant is on the same site as the editor's office.

KL employs a number of journalists to write articles. These journalists tend to work away from the editorial office gathering information to write their stories. Often they stay in hotels to be near to events as they happen. When they have completed their stories they send them to the editor for editing.

Scenario 3**Questions 11, 12 and 13**

Ramon is the manager of the payroll section of a large company. The company has many departments. He has decided that the current payroll system is out of date and has employed Joanne, a systems analyst, to investigate the current system and develop a new one.

Ramon wants the system, as well as outputting payslips, to produce reports.

Ramon and Joanne will be using time management software to monitor the progress of this project.

After the system has been tested Joanne will need to produce an evaluation of it. One way of evaluating the system is to observe workers using the new system.

12 (a) Describe the different ways Joanne could carry out her observation of the new system.

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(b) Discuss the advantages and disadvantages of using observation to evaluate a system.

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