

The City School

Unified Mid-Year Examinations

2018 - 2019

Class 9



SCHOOL NAME

INDEX NUMBER

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DATE

COMPUTER SCIENCE

Paper 1 Theory

2210/12

1 hour 45 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your School name, Index number and Date in the spaces provided.

Write in dark blue or black pen.

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

Do not use paper clips, glue or correction fluid.

Calculators must not be used in this paper.

Answer all questions.

No marks will be awarded for using brand names of software packages or hardware.

At the end of examination, fasten all your work securely together.

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

The maximum number of marks is 75.

Invigilated By: _____

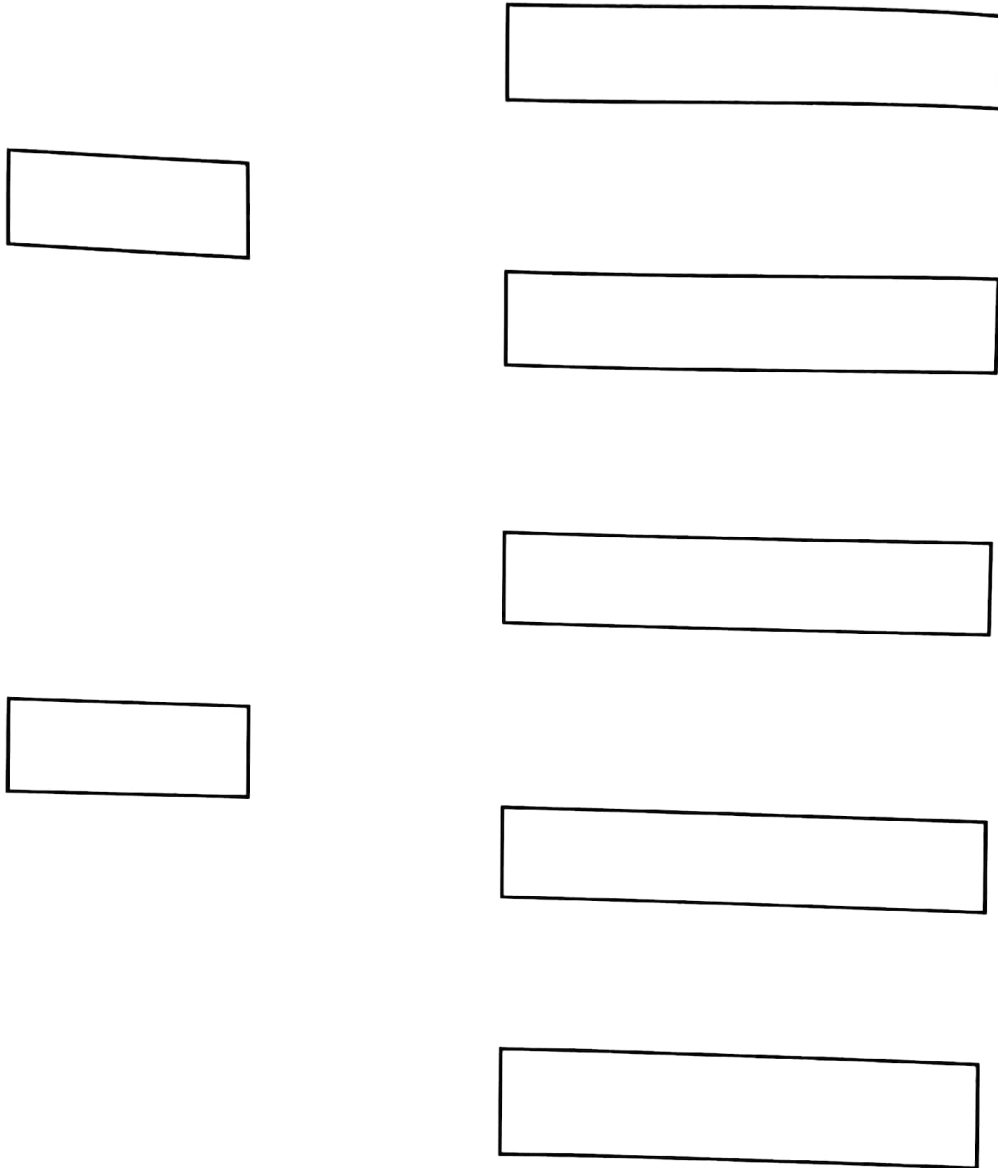
Checked By: _____

Marks Talled By: _____

This document consists of 12 printed pages.

1 In the diagram below, there are **two** types of memory shown on the left and **five** typical memory features shown on the right.

Link each feature to **either** RAM or ROM by drawing connecting lines.



[5]

2 Identify what type of barcode A is an example of.



(a) Identify this type of barcode.

..... [1]

(b) Explain how the data stored in this type of barcode is useful for businesses.

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.....
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..... [3]

3 A supermarket uses barcode on all its items. List two advantages of using barcodes to the management and customers.

Management:

- (i)
- (ii) [2]

Customers:

- (i)
- (ii) [2]

- 4 Digital cameras have replaced the more traditional camera that used film to record the photos.

Explain how the captured images are converted to digital photo files.

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..... [4]

- 5 Name the most suitable input or output device for each of the following uses. Give a different device in each case.**

Description of use	Input or output device
Input of credit card number into an online form	
Enabling a disabled person to communicate with a computer	
Output of several hundred high-quality leaflets	
System that allow user to draw or write on a screen which then saves the data in the memory	
Use of additive manufacturing that builds the objects layer by layer	
Use to create complex designs; controlled by computers and sophisticated softwares	
Spoken words are recognized by the computer and displayed on the screen	
Input of a hard copy image into a computer	

[8]

6 (a) Write a suitable different applications that uses each of the following sensors.

Sensor	Application
Acoustic/sound	
Light	
Pressure	
Magnetic field	

[4]

(b) Sensors and a microprocessor monitor a car exhaust for high temperature and high carbon monoxide (CO) levels.

Describe how the sensors and microprocessor are used to monitor the temperature and CO levels and warn the driver if it is out of range.

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..... [4]

7 (a) Complete the paragraph by choosing six correct terms from the list.

SSD/example of a USB storage device

DVD-RAM

EEPROM

NAND

SD or XD card

Hard disk drives

DVD/ DVD-R(+R)/ DVD-RW(+RW)/ DVD-ROM (not CD or DVD-RAM)

RAM

Blu-Ray

_____ device that stores data by controlling the movement of electrons within a microchip; there are no moving parts. _____ is the optical storage media that uses a dual layer technology, which considerably increases the storage capacity. Another optical storage media is _____ that uses concentric tracks allowing writing and reading to take place at the same time. Digital camera uses a slightly different form of SSD know as _____ which is made up of _____ chips. Data is stored in a digital format on the magnetic surfaces of the disk or platters are known as _____.

[6]

- (b) In recent times both the CD and DVD are showing signs of becoming obsolete. Many new computers now come with the flash memory connectors.

What other storage methods could be used to store music or movie files. Discuss their benefits and drawbacks.

[6]

Storage Method	Benefits	Drawbacks

- 8** The steps to print a document using Inkjet printer are shown in the table below.
Put each step in the correct order. The first step has been done for you.

Steps	Order
If there is more data in the printer buffer, then the whole process is repeated until the buffer is finally empty	
A sheet of paper is then fed into the main body of the printer; a sensor detects whether paper is available in the paper feed tray – if it is out of paper or the paper is jammed then an error message is sent back to the computer	
The printer driver ensures that the data is in a format that the chosen printer can understand	
As the sheet of paper is fed through the printer, the print head moves from side to side across the paper printing the text or image; the four ink colors are sprayed in their exact amounts to produce the desired final color	
At the end of each full pass of the print head, the paper is advanced very slightly to allow the next line to be printed; this continues until the whole page has been printed	
The data from the document is sent to a printer driver	1
A check is made by the printer driver to ensure that the chosen printer is available to print (e.g. is it busy, is it off line, is it out of ink, and so on)	

[6]

9 Draw a line to connect each term to its correct description and file extension.

Terms	File Formats	Description

[5]

- 10 (a) Mobile phones and tablets are some of the leading users of touchscreen technology. The most common technology types are capacitive, infra-red and resistive.

Indicate by writing the name of the technology that matches with the explanation.

Statements	Type
Uses upper layer of polyester and bottom layer of glass	
Poor visibility in strong sunlight	
Heat-sensitive systems only allow bare fingers to be used	
Uses layers of glass that acts as a capacitor	
Good screen durability	
Expensive technology	

[6]

- (b) Indicate with a tick (✓) or (✗) which of the following statements about OLEDs are correct.

Statements	Answer
OLEDs require some form of back-lighting so that the screen can be lit up	
Because of plastic organic layers, OLEDs are much thicker and heavier than conventional LCD/LED formats	
OLEDs produce a much larger field of view than LCD/LED formats	
OLEDs give a brighter light than LEDs leading to more vivid colors	
OLEDs consume more power than LCD/LED formats and thus produce more heat	

11 Mahnoor wants to send her pictures to Anamta. Many of the photos are very large files, so Mahnoor needs to reduce their file size as much as possible.

(a) Name **two** types of compression that Mahnoor could use.

Compression type 1

Compression type 2[2]

(b) Identify which type of compression would be most suitable for Mahnoor to use. Explain your choice.

Compression type

Explanation

.....

.....

..... [2]

(c) Mahnoor has a number of other files of different sizes that contain her work are shown below.

Tick (✓) or (✗) to show whether each statement is **true** or **false**.

Statement	Answers
127KB is larger than 10MB.	
170bytes is smaller than 0.5MB.	
50GB is larger than 100MB.	
1TB is smaller than 4GB.	

[4]