

AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XI

MODEL EXAMINATION PAPER 2020

Computer Science Paper II

Time: 2 hours 10 minutes Marks: 50

INSTRUCTIONS

Please read the following instructions carefully.

1. Check your name and school information. Sign if it is accurate.

**I agree that this is my name and school.
Candidate's Signature**

RUBRIC

2. There are TEN questions. Answer ALL questions. Question 10 offers TWO choices. Attempt any ONE choice.
3. When answering the questions:

Read each question carefully.
Use a black pointer to write your answers. DO NOT write your answers in pencil.
Use a black pencil for diagrams. DO NOT use coloured pencils.
DO NOT use staples, paper clips, glue, correcting fluid, or ink erasers.
Complete your answer in the allocated space only. DO NOT write outside the answer box.
4. The marks for the questions are shown in brackets ().

Q.1. (Total 6 Marks)

a. List the names of any THREE automatic data capturing devices. (3 Marks)

b. Write any ONE daily life use of each of the devices named in part (a). (3 Marks)

Q.2. (Total 3 Marks)

Differentiate between the following touch screen technologies.

Capacitive	Resistive
1.	1.
2.	2.
3.	3.

Q.3.

(Total 6 Marks)

There are three types of ROM. Write their full names and describe the salient feature of each type.

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Q.4.

(Total 4 Marks)

Read the following FOUR operations performed by computer instructions.

1. Performing logical AND operation on two binary numbers.
2. Repetition of a set of programming statements.
3. Shifting an operand bit by bit to the right or to the left.
4. Loading memory contents into a register.

Categorise the given operations in the following table.

Data Transfer Instruction	Data Processing Instruction	Data Control Instruction


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Q.5. (Total 3 Marks)

a. Describe the function of sound card. (1 Mark)

b. Draw a block diagram to show working of sound card when it takes

i. voice input from microphone. (1 Mark)



ii. digital sound input from computer. (1 Mark)



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Q.6.

(Total 2 Marks)

Identify the type of class and network ID of each of the IPv4 address given in the table.

IPv4 Address	Type of Class	Network ID
162.155.10.10	B	
192.18.55.55		192.18.55
120.112.110.115		120

Q.7.

(Total 6 Marks)

Describe the basic components of network communication with the help of a diagram.

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Space for Diagram

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Q.8. (Total 5 Marks)

a. Write any THREE differences between Wi-Fi and WiMAX. (3 Marks)

Wi-Fi	WiMAX
1.	1.
2.	2.
3.	3.

b. Define the following protocols. (2 Marks)

i. Wireless Application Protocol (WAP)

ii. Wired Equivalent Privacy (WEP) Protocol

Q.9.

(Total 5 Marks)

A college has a database named 'college' that has three tables, i.e. teacher, course and department.

Teacher

Teacher_ID	Teacher Name	Age	Contact Number

Course

Course_ID	Course Name	Credit Hours

Department

Department_ID	Department Name

Each teacher can teach multiple courses but each course should be taught by a single teacher only.
Each teacher is affiliated to one department. Multiple departments offer the same course.
Draw entity-relationship diagram (ERD) for the college database to meet the given requirements.

Space for ERD

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Q.10.

(Total 10 Marks)

EITHERa. Consider the given table named as **Employee**.

Emp_ID	First_Name	Last_Name	Age	Contact_Number
1	Naila	Khan	27	1223344
2	Shahid	Bajwa	32	1998877
3	Saima	Anees	22	1182200

Write MS Access SQL queries to

- create this table with appropriate data types. (4 Marks)
- insert first record shown in the table. (2 Marks)
- remove Last_Name field from the table. (2 Marks)
- add salary field in the table. (1 Mark)
- change the field length of First_Name to 75 characters. (1 Mark)

ORb. A database table named as **Customer** has fields **ID**, **Name**, **Address**, **City**, **Postal_Code** and **Country**.

Write SQL queries for this database table to

- retrieve the records of all the customers that are living in UK or Turkey. (2 Marks)
- retrieve the records of all the customers having ID value greater than 2 and postal code value less than 10000. (2 Marks)
- sort customer names in ascending order and then retrieve the records. (1 Mark)
- retrieve the number of customers in each country. (3 Marks)
- retrieve the records of all the customers that are not living in Islamabad or Madina. (2 Marks)

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END OF PAPER

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