## 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

ily. Please read the following instructions carefully

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

> 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 ().

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Q.1.		(Total 6 Marks)
a. List the names of any THREE automatic dat	a capturing devices.	(3 Marks)
b. Write any ONE daily life use of each of the	devices named in part (a).	(3 Marks)
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	0,40	
	O V O	
	0	
Q.2.	2	(Total 3 Marks)
Differentiate between the following touch screen to	echnologies.	(======================================
Capacitive	Resistive	
1.	1.	
2.	2.	
3.	3.	

Page 3 of 12		
Q.3.		(Total 6 Marks
There are three types of ROM. Wi	rite their full names and describe the	e salient feature of each type.
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	F-00-0	
	3 (0)	
Q.4.		(Total 4 Marks
Read the following FOUR operation	ons performed by computer instruc	tions.
	eration on two binary numbers.	
<ol> <li>Repetition of a set of progra</li> </ol>		
3. Shifting an operand bit by b	_	
4. Loading memory contents in	nto a register.	
Categorise the given operations in	the following table.	
Data Transfer Instruction	<b>Data Processing Instruction</b>	Data Control Instruction
	0	

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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	В	
192.18.55.55		192.18.55
120.112.110.115		120

Q.7.		(Total 6 Marks)
Describe the basic comp	ponents of network communication with the help of a diagram.	
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	M/VO	
Space for Diagram	40	

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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.

# Attiple do the college of the colleg **Space for ERD**

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Q.10. (Total 10 Marks)

### **EITHER**

a. 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

- i. create this table with appropriate data types.
   ii. insert first record shown in the table.
   iii. remove Last\_Name field from the table.
   iv. add salary field in the table.
   v. change the field length of First\_Name to 75 characters.
   (4 Marks)
   (2 Marks)
   (1 Mark)
   (1 Mark)
  - OR

b. A database table named as **Customer** has fields **ID**, **Name**, **Address**, **City**, **Postal\_Code** and **Country**.

Write SQL queries for this database table to

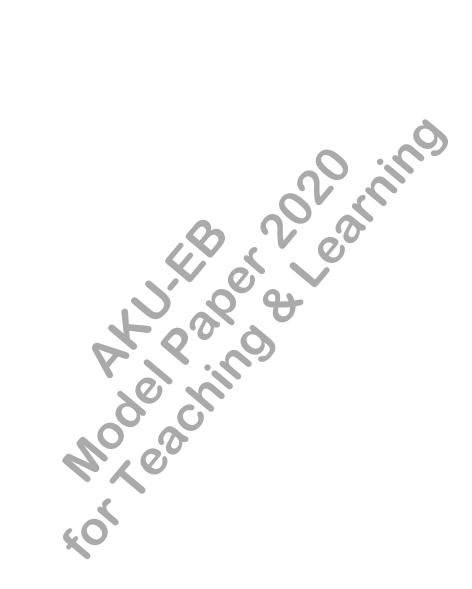
- i. retrieve the records of all the customers that are living in UK or Turkey. (2 Marks)
- ii. retrieve the records of all the customers having ID value greater than 2 and postal code value less than 10000. (2 Marks)
- iii. sort customer names in ascending order and then retrieve the records. (1 Mark)
- iv. retrieve the number of customers in each country. (3 Marks)

(2 Marks)

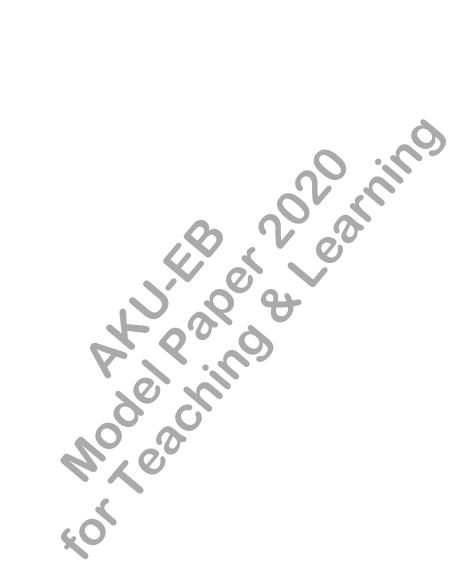
v. retrieve the records of all the customers that are not living in Islamabad or Madina.

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