

# YESWECS

## PRACTICE PAPER - 2

Std : XII(CBSE)

Marks : 35

Date : 02.06.2022

## COMPUTER SCIENCE

Time : 2 hours.

### General Instructions :

1. The question paper is divided into 3 Sections - A, B and C
2. Section A consist of 7 Questions (1-7). Each question carries 2 marks.
3. Section B consist of 3 Questions (8-10). Each question carries 3 marks.
4. Section C consist of 3 Questions (11-13). Each question carries 4 marks.
5. Internal choices have been given for question numbers – 7, 8 and 12.

<b>Section-A</b>																								
<b>Each question carries 2 marks</b>																								
<b>Q. No</b>	<b>Par t No.</b>	<b>Question</b>	<b>Mark s</b>																					
1.		Define Data structure and give its types.	(2)																					
2.	(i)	Expand the following: FTP, PPP	(1)																					
	(ii)	Out of the following, which is the slowest wired and wireless medium of transmission? Infrared, coaxial cable, optical fibre, microwave, twisted pair cable, Satellite	(1)																					
3.		Differentiate between Primary Key and Foreign Key constraints.	(2)																					
4.		A resultset is extracted from the database using the cursor object (that has been already created) by giving the following statement. Mydata=cursor.fetchone() (a) How many records will be returned by fetchone()method? (b) What is the use of rowcount()?	(2)																					
5.		Write outputs for SQL queries (a) to (d), which are based on the tables TRANSPORT and TRIP  <b>TABLE: TRANSPORT</b> <table border="1"><thead><tr><th>TCODE</th><th>TTYPE</th><th>PERKM</th></tr></thead><tbody><tr><td>103</td><td>ORDINARY BUS</td><td>90</td></tr><tr><td>105</td><td>SUV</td><td>40</td></tr><tr><td>104</td><td>CAR</td><td>20</td></tr><tr><td>103</td><td>ORDINARY BUS</td><td>90</td></tr><tr><td>101</td><td>VOLVO BUS</td><td>160</td></tr><tr><td>102</td><td>AC DELUXE BUS</td><td>140</td></tr></tbody></table>	TCODE	TTYPE	PERKM	103	ORDINARY BUS	90	105	SUV	40	104	CAR	20	103	ORDINARY BUS	90	101	VOLVO BUS	160	102	AC DELUXE BUS	140	(2)
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**Note:**

- PERKS is Freight Charges per kilometer
- TTYPE is Transport Vehicle Type

**TABLE: TRIP**

NO	NAME	TDATE	KM	TCODE	NOP
11	Tanish Khan	2015-12-13	200	101	32
13	Danish Sahai	2016-06-21	100	103	45
15	Ram Kumar	2016-02-23	350	102	42
12	Fen Shen	2016-01-13	90	102	40
17	Aan Kumar	2015-02-10	75	104	2
14	Veena	2016-06-28	80	105	4
16	Rajpal Kirti	2016-06-06	200	101	25

**Note:**

- NO is Driver Number
  - KM is Kilometer travelled
  - NOP is number of travellers travelled in vehicle
  - TDATE is Trip Date
- SELECT COUNT (\*), TCODE From TRIP  
GROUP BY TCODE HAVING COUNT (\*) > 1;
  - SELECT DISTINCT TCODE from TRIP;
  - SELECT A.TCODE, NAME, TTYPE  
FROM TRIP A, TRANSPORT B  
WHERE A. TCODE = B. TCODE AND KM < 90;
  - SELECT NAME, KM \*PERKM  
FROM TRIP A, TRANSPORT B  
WHERE A. TCODE = B. TCODE AND A. TCODE = 105';

6. (i) Which command is used to delete the database? (1)

(ii) What are the commands available in TCL? (1)

7. (2)

Consider the following tables CARDEN and CUSTOMER and answer the following questions:

**Table : CARDEN**

Ccode	CarName	Make	Colour	Capacity	Charges
501	A-Star	Suzuki	RED	3	14
503	Indigo	Tata	SILVER	3	12
502	Innova	Toyota	WHITE	7	15
509	SX4	Suzuki	SILVER	4	14
510	C Class	Mercedes	RED	4	35

**Table : CUSTOMER**

Code	Cname	Ccode
1001	Hernant Sahu	501
1002	Raj Lal	509
1003	Feroza Shah	503
1004	Ketan Dhal	502

		<p>a. Give a suitable example of a table with sample data and illustrate Primary and Alternate keys in it.</p> <p>b. Suppose if we are adding 2 columns and 3 rows to CUSTOMER table, what will be the degree and cardinality of CUSTOMER table?</p> <p style="text-align: center;">OR</p> <p>a. Identify the foreign key from the CUSTOMER table.</p> <p>b. What is the degree and cardinality of CARDEN table after adding three records and deleting two attributes?</p>																						
		<b>Section-B</b>																						
		<b>Each question carries 3 marks</b>																						
8.		<p>Write a function in python, <i>MakePush(Package)</i> and <i>MakePop(Package)</i> to add a new Package and delete a Package from a List of Package Description, considering them to act as push and pop operations of the Stack data structure</p> <p style="text-align: center;">OR</p> <p>Write a function in python, <i>Push(Stu)</i> and <i>MakePop(Stu)</i> to add a new student and delete student from a List of Stu contain rollno, Sname and Class as list, considering them to act as push and pop operations of the Stack data structure</p>	(3)																					
9.	(i)	<p>Sonal needs to display name of teachers, who have “0” as the third character in their name. She wrote the following query.</p> <p>SELECT NAME FROM TEACHER WHERE NAME = “\$\$0?”;</p> <p>But the query is’nt producing the result. Identify the problem.</p>	(1)																					
	(ii)	<p>Categorize following commands into DDL and DML commands?</p> <p>CREATE TABLE, INSERT INTO, DELETE FROM, DROP TABLE, ALTER TABLE</p>	(2)																					
10		<p>Kiran has to create a table named STUDENT in the database to store the records of various students. The table STUDENT has the following structure:</p> <p>Table: STUDENT</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>FIELD NAME</th> <th>DATA TYPE</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr> <td>ROLLNO</td> <td>INTEGER</td> <td>PRIMARY KEY</td> </tr> <tr> <td>SNAME</td> <td>CHAR(30)</td> <td></td> </tr> <tr> <td>AGE</td> <td>INTEGER</td> <td>DEFAULT 18</td> </tr> <tr> <td>MARKS</td> <td>INTEGER</td> <td></td> </tr> <tr> <td>ADDRESS</td> <td>CHAR(30)</td> <td></td> </tr> <tr> <td>TOTAL</td> <td>INTEGER</td> <td>NOT NULL</td> </tr> </tbody> </table>	FIELD NAME	DATA TYPE	REMARKS	ROLLNO	INTEGER	PRIMARY KEY	SNAME	CHAR(30)		AGE	INTEGER	DEFAULT 18	MARKS	INTEGER		ADDRESS	CHAR(30)		TOTAL	INTEGER	NOT NULL	(3)
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		Help him to complete the task by suggesting appropriate SQL commands.																																																																					
		<b>Section-C</b> <b>Each question carries 4 marks</b>																																																																					
11		<p>Write SQL commands for the queries (a) to (d) based on a table COMPANY and CUSTOMER.</p> <p style="text-align: center;"><b>COMPANY</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>CID</th> <th>NAME</th> <th>CITY</th> <th>PRODUCTNAME</th> </tr> </thead> <tbody> <tr> <td>111</td> <td>SONY</td> <td>DELHI</td> <td>TV</td> </tr> <tr> <td>222</td> <td>NOKIA</td> <td>MUMBAI</td> <td>MOBILE</td> </tr> <tr> <td>333</td> <td>ONIDA</td> <td>DELHI</td> <td>TV</td> </tr> <tr> <td>444</td> <td>SONY</td> <td>MUMBAI</td> <td>MOBILE</td> </tr> <tr> <td>555</td> <td>BLACKBERRY</td> <td>MADRAS</td> <td>MOBILE</td> </tr> <tr> <td>666</td> <td>DELL</td> <td>DELHI</td> <td>LAPTOP</td> </tr> </tbody> </table> <p style="text-align: center;"><b>CUSTOMER</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>CUSTID</th> <th>NAME</th> <th>PRICE</th> <th>QTY</th> <th>CID</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>ROHAN SHARMA</td> <td>70,000</td> <td>20</td> <td>222</td> </tr> <tr> <td>102</td> <td>DEEPAK KUMAR</td> <td>50,000</td> <td>10</td> <td>666</td> </tr> <tr> <td>103</td> <td>MOHAN KUMAR</td> <td>30,000</td> <td>5</td> <td>111</td> </tr> <tr> <td>104</td> <td>SAHIL BANSAL</td> <td>35,000</td> <td>3</td> <td>333</td> </tr> <tr> <td>105</td> <td>NEHA SONI</td> <td>25,000</td> <td>7</td> <td>444</td> </tr> <tr> <td>106</td> <td>SONAL AGGARWAL</td> <td>20,000</td> <td>5</td> <td>333</td> </tr> <tr> <td>107</td> <td>ARUN SINGH</td> <td>50,000</td> <td>15</td> <td>666</td> </tr> </tbody> </table> <p>a. To display those company name which are having prize less than 30000.</p> <p>b. To display the name of the companies in reverse alphabetical order.</p> <p>c. To increase the prize by 1000 for those customer whose name starts with „S?</p> <p>d. To add one more column totalprice with decimal] 10,2) to the table customer</p>	CID	NAME	CITY	PRODUCTNAME	111	SONY	DELHI	TV	222	NOKIA	MUMBAI	MOBILE	333	ONIDA	DELHI	TV	444	SONY	MUMBAI	MOBILE	555	BLACKBERRY	MADRAS	MOBILE	666	DELL	DELHI	LAPTOP	CUSTID	NAME	PRICE	QTY	CID	101	ROHAN SHARMA	70,000	20	222	102	DEEPAK KUMAR	50,000	10	666	103	MOHAN KUMAR	30,000	5	111	104	SAHIL BANSAL	35,000	3	333	105	NEHA SONI	25,000	7	444	106	SONAL AGGARWAL	20,000	5	333	107	ARUN SINGH	50,000	15	666	(4)
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12	(i)	<p>Give two advantages and two disadvantages of Mesh topology</p> <p style="text-align: center;">OR</p> <p>Define the following terms: URL, Internet</p>	(2)																																																																				
	(ii)	<p>Define the following terms: Modem , Repeater</p>	(2)																																																																				
13		<p>Indian School, in Mumbai is starting up the network between its different wings. There are four Buildings named as SENIOR, JUNIOR, ADMIN and HOSTEL as shown below:</p>	(4)																																																																				

SENIOR
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JUNIOR
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ADMIN
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HOSTEL
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**The distance between various buildings is as follows:**

ADMIN TO SENIOR	200m
ADMIN TO JUNIOR	150m
ADMIN TO HOSTEL	50m
SENIOR TO JUNIOR	250m
SENIOR TO HOSTEL	350m
JUNIOR TO HOSTEL	350m

**Number of Computers in Each Building :**

SENIOR	130
JUNIOR	80
ADMIN	160
HOSTEL	50

- Suggest the cable layout of connections between the buildings.
- Suggest the most suitable place (i.e., building) to house the server of this school, provide a suitable reason.
- Suggest the placement of the following devices with justification.
  - Repeater
  - Hub/Switch
- The organisation also has inquiry office in another city about 50-60 km away in hilly region. Suggest the suitable transmission media to interconnect to school and inquiry office out of the following :
  - Fiber optic cable
  - Microwave
  - Radiowave