ARMY PUBLIC SCHOOL, R. K. PURAM

HALF YEARLY EXAMINATION, Sept. 2011

CLASS : XII

INFORMATICS PRACTICES

TIME : 3 Hrs   **SET – 1**   **MAX. MARKS : 70**

Q1   Answer the following questions:

(a)   Sumit wants to upload and download files from/to a remote internet server, write the name of   1
the relevant communication protocol, which let him do the same.

(b)   Two doctors in the different countries want to connect their laptops for working on a Group   1
presentation. Out of the following, what kind of Network they have formed?
LAN, MAN, PAN, WAN

(c)   Arrange the following communication channels in descending order of their data transmission   1
rates. Ethernet Cable, Optical Fiber, Telephone Cable, Co-axial Cable

(d)   Which of the following are proprietary standards ? AIFF   OGG   RM   HTML   1

(e)   Acme Education has set up its new branch at Jaipur for its office and web based activities. It
has 4 wings of buildings as shown in diagram:

Wing U	Wing X	Wing Y	Wing Z

Center to center distances between   Number of computers
various blocks

Wing X to Wing Z	50 m		Wing X	50
Wing Z to Wing Y	70 m		Wing Z	30
Wing Y to Wing X	125 m		Wing Y	150
Wing Y to Wing U	80 m		Wing U	15
Wing X to Wing U	175 m			
Wing Z to Wing U	90 m			

(i) Suggest the most placement of Repeater and switch with justification.   1
(ii) Suggest most suitable place to house the server.   1

(f) Expand the following Terms: 1

(i) FlOSS   (ii) FSF   (iii) FQDN   (iv) DHCP

(g) Why network security is an important aspect over data security ? 1

(h) Differentiate between Star and Linear Topology of networks.(Two points each) 1

(i) Asha is confused between the terms Domain Name and URL. Explain the difference with the 1
help of appropriate examples of each.

Q2 Answer the following questions

(a) While working in Netbeans, Rajmeeta included a Listbox in the form. Now she wants the list 1
of her friends' names to be displayed in it. Which property of Listbox control should she use to
do this?

(b) What is the significance of NULL statement? 1

(c) Compare Protected and Private access specifier. 1

(d) What is the purpose of Default clause in switch statement Break statement in a loop. 1

(e) Write a function in java that receives a 3 digit integer and returns its middle digit. 1

(f) What is mean by Pass By Value and Pass by Reference.Explain with examples. 1

(g) Determine the output: 1

int a=7;

System.out.print (++a);

System.out.print (a);

System.out.print (a++);

(h) How many times will each of the following loops execute? Which one of these is an
entry control loop and which one is an exit control loop? 2

Loop1:	Loop2:
int sum = 0, i = 5;	int sum = 0, i = 5;
do	while (i<5)
{ sum += i;i++;} while (i<5);	{sum += i;i++;}

Q3   Answer the following questions

(a) If a database "Employee" exists, which MySql command helps you to list the names of all 2
tables and their structure in that database?

(b) Sahil created a table in Mysql. Later on he found that there should have been another column 1
in the table. Which command should he use to add another column to the table?

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(c)   What is the following command doing ?   1

ALTER TABLE PERSONS

MODIFY COLUMN CITY VARCHAR(20));

(d)   You need to remove the emp_fk_dept constraint from the EMPLOYEES table in your   1

schema. Which statement should you use.

(e)   Consider the following table TRAIN and find out the output.

    2

TrainNo	Name	FarePerTicket
8369	SMITH	800
8499	ANYA	1600
8521	SETH	1250
8566	DEV	2985
8500	SUNIL	NULL
8509	SUMY	2467

(i) SELECT Name,fareperticket from TRAIN where Name like"su%";

(ii) SELECT trainno,AVG(FarePerTicket) from TRAIN;

(f)   A table ACCOUNT in a database has 3 columns and 30 rows. Another similar table   1

ACCOUNT1 has 3 columns and 50 more rows . All the records from ACCOUNT1 are

added into ACCOUNT table.s What is the degree and cardinality of this table now ?

(g)   Which statement is used to mark the start of a transaction   1

Q4   (a)   Discuss various reasons that support the concept of Clasess and objects in Object Oriented   1

language

(b)   Consider the following java class: 2

public class date{

    public int day;

    public int month;

    public int year;

public date(int d,int m,int y) {

   day=d ;

   month=m ;

   year=y

} }

(i) How many constructors and instance variables does the class have?

(ii) Create a date object corresponding 11th May 2002.

(c)   Rewrite the following program code using switch statement: 1

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```
if(opt==1)
  JLabel1.setText("You entered one");
else  if(opt==10)
  JLabel1.setText("You entered ten");
else if(opt==100)
  JLabel1.setText("You entered hundred");
else if(opt==10000)
  JLabel1.setText("You entered thousand");
else
  JLabel1.setText("invalid entry");
```

(d)   Find out the output: 4

(i)   int a=10,b=5,c=7;

System.out.println(a+"\t" + b +"\t"+c);

(ii)   int a=3;

a = a + 1;

if(a> 5)

  Label4.settext(Integer.toString(a));

else

  Label4.settext(Integer.toString(a*a));

(iii) int add(int x,int y) {

  if(x >=y)

  {

      x= x-y ;

      return add(x,y) ;

  }

  else

      return x;

}

   (a) What will be the function add(40,10) return?

   (b)   What will be the function add(15,5) return?

(e)   The following code has some error(s). Rewrite the correct code underlining all the

corrections   1

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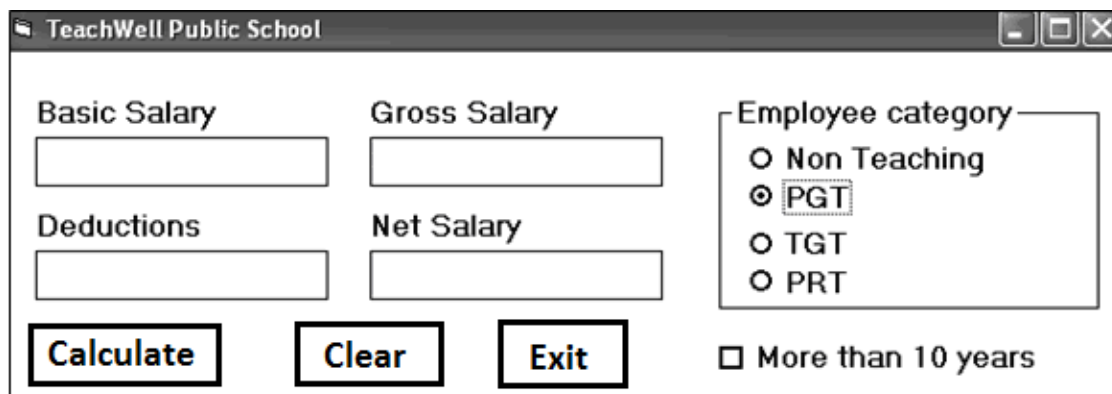Schools | Alumni | CBSE Results | CBSE Datesheet | **CBSE News**

made:

int x=20

do{

  if (x%3==0)

    JOptionPane.showMessageDialog(2*x+1);

  else

    JOptionPane.showMessageDialog(2*x-1);

  } while (x>0) ;

(f) Convert the following segment into an equivalent do loop.

int x,c;   1

for(x = 10,c =20; c>= 10 ; c = c-2)

  x++;

(g) Read the following case study and answer the questions that follow.

TeachWell Public School wants to computerize the employee salary section.The School is having two categories of employees : Teaching and Non Teaching. The Teaching employees are further categorized into PGTs, TGTs and PRTs having different Basic salary.

The School gives addition pay of 3000 for employees who are working for more than 10 years.

Employee Type	Basic Salary	DA (% of Basic Salary)	HRA (% of Basic Salary)	Deductions(% of Basic salary)
Non Teaching	12500	31	30	12
PGT	14500	30	30	12
TGT	12500	21	30	12

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PRT	11500	20	25	12

(i) Write the code to calculate the Basic salary, deductions, gross salary and net salary based on the given specification.   2

    Add 3000 to net salary if employee is working for more than 10 years.

    Gross salary=Basic salary + DA + HRA

    Net salary = Gross salary – deductions

(ii) Write the code to clear all textfields, uncheck checkbox and set non teaching as the default category.   1

(iii) Write the code to exit the application. Also display a message "Thank you" before exiting the application.   1

(iv) Write the code to disable textfields for gross salary, deductions and netsalary.   1

(v) Make sure that the basic salary entered should be a positive and non-zero value. If not give an appropriate message and clear the textfield.   2

Q5 (a)   Differentiate between COMMIT and ROLLBACK.   1

(b)   Find out the output:

(i)   SELECT SUBSTR(TRIM('   INDIA IS GREAT   '),3,9);   2

(ii)   SELECT MOD(14*9,50/5);

(iii) SELECT Day_Of_Month('2009-08-05');

(iv) SELECT MID('Class 12', 1,5);

(c)   Consider the table EMPLOYEE given below. Write commands in SQL for (i) to (v)(1 MARK EACH) and output for (vi) to (ix)(1/2 MARK EACH).   7

(i)   To calculate the total salary from employees of job MANAGER.

(ii)   To convert designation into lower case.

(iii) To list names, departments and date of hiring of all the employees in ascending order of date of joining.

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(iv)   Display the first three characters of the field job.

(v)   To insert the details of a new employee in the above table with the following data:

8935,"Aman","Analyst",8904,"1994-01-03",230000,null,20

(vi)   SELECT MAX(Hiredate) FROM EMPLOYEE;

(vii)   SELECT DISTINCT(JOB) FROM EMPLOYEE ;

(viii)   SELECT COUNT(*) FROM EMPLOYEE WHERE HIREDATE >'1991-12-03';

(ix)   SELECT AVG(Sal) FROM EMPLOYEE group by DEPTNO;

EmpNo	Ename	Job	Mgr	Hiredate	Sal	Comm.	Deptno
8369	SMITH	CLERK	8902	1990-12-18	800.00	NULL	20
8499	ANYA	SALESMAN	8698	1991-02-20	1600.00	300.00	30
8521	SETH	SALESMAN	8698	1991-02-22	1250.00	500	30
8566	DEV	MANAGER	8839	1991-04-02	2985.00	NULL	20
8654	MOHIN	SALESMAN	8698	1991-09-28	1250.00	1400.00	30
8698	BINA	MANAGER	8839	1991-05-01	2850.00	NULL	30
8882	SHIVASH	MANAGER	8839	1991-05-09	2450	NULL	30
8888	SCOTT	ANALYST	8566	1992-12-09	3000.00	NULL	20
8839	AMIR	PRESIDENT	NULL	1991-11-18	5000.00	NULL	10
8844	KULDEEP	SALESMAN	8698	1991-09-08	1500.00	0.00	30
8886	ANOOP	CLERK	8888	1993-01-12	1100.00	NULL	20
8900	JATIN	CLERK	8698	1991-12-03	950.00	NULL	30
8902	FAKIR	ANALYST	8566	1991-12-03	3000.00	NULL	20
8934	MITA	CLERK	8882	1992-01-03	1300.00	NULL	10

(d)   Name the SQL commands for the following situations:

  (i) To view the structure of a table.   2

  (ii) To physically delete a table.

(f)   Differentiate between DROP TABLE and DELETE COMMAND.   1

Q6   (a)   Create table Student as per the specifications given below:

Column Name	Type	Length	Constraint	
Rno	Integer	5	Primary Key	2
Name	Varchar	25	NOT NULL	

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Address	Varchar	25	Default mumbai
DOB	Date		
Class	Integer	3	>=1
Admno	Varchar	10	Foreign key =>Admission(Enrno)

(b) In a database there are two tables ' Student ' and 'Marks' as shown below:

Student

Enrno	Name	DOB	Class
1001	anugraha	2000-10-7	7
1002	alvin	2002-5-8	5
1003	aswin	2003-5-5	7
1004	ashish	2004-6-7	5

Marks

Enrno	TMarks	TDate
1001	88.38	2010-8-10
1003	85.58	2010-7-10

2

(i) How many rows and how many columns will be there in the Cartesian product of these two tables?

(ii) Which column in the 'Marks' table is the foreign key?

(c) Consider the tables 'FLIGHTS' and 'FARES' given below.With reference to these tables, Write commands in SQL for (i) and (ii) and output for (iii)below:

3

FLIGHTS

No	Starting	Ending	No_seats	No_stops
301	Mumbai	Delhi	8	0
799	Banglore	Delhi	2	1
101	Indore	Mumbai	3	0
302	Delhi	Mumbai	8	0

FARE

No	Fare	Tax %
101	3400	10
799	1050	8
701	650	10
301	4300	5

(i) Display the Flight No, Starting and Ending location with Fare for each flight.

(ii) Display the Flight Details for each Flight whose tax is 10% or more.

(iii) select FLIGHTS.No, Starting,Ending,Fare

from FLIGHTS,FARE

where FLIGHTS.No=FARE.No

and Fare >2000;

(a) How does e-commerce helpful to the customer? 1

(b) How many types of relationship are possible among entities ?Give example of each. 1

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(c) Identify the type of relationship from the following and also show them diagrammatically. 1

'A General Hospital consists of a number of specialized wards (such as Maternity, Paediatry, Oncology, etc).'

(d) Vijayan works for the Customs Department. He wishes to create controls on a form for 2 the following functions. Choose appropriate controls from Text box, Label, Option button, Check box, List box, Combo box, Command button and write in the third column.

SNo	Control used to:	Control
1	Enter name,basic salary	
2	Select the gender	
3	Select the department from available list	
4	Input for a mouse click	

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