

KENDRIYA VIDYALAYA, CHURU
Half Yearly Exam-2010-11
SUB: - INFORMATICS PRACTICES (065)
CLASS- XII

TIME : 3:00 Hrs

Max Marks: 70

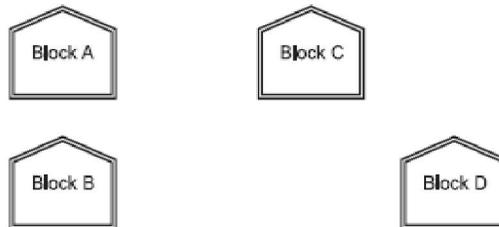
Note:

1. This question paper is divided into three sections
2. Section- A consists 30 marks each.
3. Section – B consists of 20 marks each
4. Section – C consists of 20 marks each
5. Answer the questions after carefully reading the text.

Section – A

Q1. Answer the following questions

Knowledge Supplement Organization has set up its new center at Mangalore for its office and web based activities. It has 4 blocks of buildings as shown in the diagram below:



Center to center distances between various blocks

Block A to Block B	50 m
Block B to Block C	150 m
Block C to Block D	25 m
Block A to Block D	170 m
Block B to Block D	125 m
Block A to Block C	90 m

Number of Computers

Block A	25
Block B	50
Block C	125
Block D	10

- | | | |
|-----|--|---|
| a1. | Suggest a cable layout of connections between the blocks. | 1 |
| a2. | Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason. | 1 |
| a3. | Suggest the placement of the following devices with justification
(i) Repeater
(ii) Hub/Switch | 1 |
| a4. | The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed? | 1 |
| (b) | What is the geographical scope of LAN, MAN and WAN? | 2 |

	(c)	Would you suggest open source software (OSS) for an organization or sector where the performance is the factor of utmost importance, such as Military? You must be aware that military has different software needs than the commercial sector because of its unique mission and environment. While commercial sector choose software on the basis of factors like: <i>application choice, ease of use, service and support, price, reliability and performance</i> , the military does the same depending upon factors like: <i>reliability, long term supportability, security, scalability and performance of the software</i> . Keeping in mind the above scenario the above question with a proper justification. Give example of software, if you are recommending one.	2
	(d)	Expand the following abbreviations and explain in brief : (i). SDLC (ii). GNU	2
Q2	Answer the following questions		
	(a)	How is form data processed when the form is submitted? Are there any pre-requisites form-processing?	2
	(b)	What is use of IFNULL () function? Write the Syntax and example of IFNULL ()	2
	(c)	Define the following terms : i) Redundancy ii) Inconsistency	2
	(d)	Distinguish between a unary, a binary and a ternary operator. Give examples of Java operators for each one of them.	2
	(e)	What are the HTML Logical and Physical Text Styles? Write its names.	2
Q3	Answer the following questions		
	(a)	Write one Difference of the following: i. Protected and Friendly access specifiers ii. Overridden and Overloading	2
	(b)	Expand the following : i. JDBC ii. XML & EDI iii. DSN iv. DDLC	2
	(c)	Why was the concept of inheritance introduced in object oriented programming Languages? Write the Syntax and its body key points.	2
	(d)	Given the following code fragment: Rewrite the code using do-while. int i = 100 ; while (i > 0) System.out.println (i - -) ; System.out.println ("Thank You") ;	2
	(e)	Identify and rectify errors in the following code fragment: public abstract class Eatable{ private String name; public String getName(){ return name; } public void setName(String nm) { name=nm; }	2
		public abstract void Cook(); } public class Cake extends Eatable { public Cake (String n) { name=n; } public void Cook(int qty){ int time=qty/4; System.out.println("Back for " + time + minits);} }	

Section – B

Q4. Answer the following questions

Read the following case study and answer the questions that follow :

A programmer is required to develop a student record. The school offers two different streams, medical and non-medical, with different grading criteria.

The following is the data entry screen used to calculate percentage and grade.

The list of controls for the above frame is as follows :

Control Type	Control Name	Description
jFrame	FrameStudRec	The main Frame
jText Field	txtFirstTerm	To enter first term marks
	txtSecondTerm	To enter second term marks
	txtPercentage	To display the percentage
	txtGrade	To display the grade
jRadioButton	optMedical	To provide the Medical Stream
	optNonmedical	To provide the Non-Medical Stream
jButton(Ok)	cmdCalcPerc	To calculate Percentage
	cmdCalcGrade	To calculate Grade
	cmdClear	To clear all Text Fields
	cmdExit	To Exit from the Application

- | (a) | Write the code for the From Window Activate event of FrameStudRec so as to disable the txtPercentage and the txtGrade text fields. | 1 | | | | | | | | | | | | | | | | | |
|--|--|-------|--------|------------|-------|---------|--------|---|---------|---|------|---|-------------|--------|---|---------|---|------|---|
| (b) | Write the code for the cmdClear button to clear all the text fields. | 1 | | | | | | | | | | | | | | | | | |
| (c) | Write the code for the cmdCalcPerc button to calculate the percentage to display in text field txtPercentage, after finding the total marks of first term and second term (assuming that both marks are out of 100). | 2 | | | | | | | | | | | | | | | | | |
| (d) | Write the code for the cmdCalcGrade button to calculate the grade to display in text field txtGrade, depending on the stream selected according to the criteria in the following table: | 3 | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>Stream</th> <th>Percentage</th> <th>Grade</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Medical</td> <td>> = 80</td> <td>A</td> </tr> <tr> <td>60 – 80</td> <td>B</td> </tr> <tr> <td>< 60</td> <td>C</td> </tr> <tr> <td rowspan="3">Non Medical</td> <td>> = 75</td> <td>A</td> </tr> <tr> <td>50 – 75</td> <td>B</td> </tr> <tr> <td>< 50</td> <td>C</td> </tr> </tbody> </table> | | | Stream | Percentage | Grade | Medical | > = 80 | A | 60 – 80 | B | < 60 | C | Non Medical | > = 75 | A | 50 – 75 | B | < 50 | C |
| Stream | Percentage | Grade | | | | | | | | | | | | | | | | | |
| Medical | > = 80 | A | | | | | | | | | | | | | | | | | |
| | 60 – 80 | B | | | | | | | | | | | | | | | | | |
| | < 60 | C | | | | | | | | | | | | | | | | | |
| Non Medical | > = 75 | A | | | | | | | | | | | | | | | | | |
| | 50 – 75 | B | | | | | | | | | | | | | | | | | |
| | < 50 | C | | | | | | | | | | | | | | | | | |
| (e) | Write Factorial () function and pass an integer number as a argument and return a factorial of passed number by using recursion method. | 3 | | | | | | | | | | | | | | | | | |

Q5. Answer the following questions																				
(a)	<p>A Class Telcall calculates the monthly phone bill of a consumer. Some of the members of the class are given below:</p> <p>Class name : Telcall</p> <p>Data members/instance variable :</p> <p> phno : phone number</p> <p> name : name of consumer</p> <p> n : number of calls made</p> <p> amt : bill amount</p> <p>Member functions/methods :</p> <p> Telcall() : Parameterised constructor to assign values to data members</p> <p> void compute() : to calculate the phone bill amount based on the slabs given below</p> <p> void dispdata() : to display the details in the specified format</p> <table border="1"> <thead> <tr> <th>Number of calls</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>1 – 100</td> <td>Rs. 500/- rental charge only</td> </tr> <tr> <td>101 – 200</td> <td>Rs. 1.00 per call + rental charge</td> </tr> <tr> <td>201 – 300</td> <td>Rs. 1.20 per call + rental charge</td> </tr> <tr> <td>above 300</td> <td>Rs. 1.50 per call + rental charge</td> </tr> </tbody> </table> <p>The calculations need to be done as per the slabs.</p> <p>Specify the class Telcall, giving the details of the constructor, void compute() and void dispdata().</p> <p>In the main function, create an object of type Telcall and display the phone bill in the following format.</p> <table border="1"> <thead> <tr> <th>Phone Number</th> <th>Name</th> <th>Total Calls</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>01562256755</td> <td>KVCHURU</td> <td>97</td> <td>500</td> </tr> </tbody> </table>	Number of calls	Rate	1 – 100	Rs. 500/- rental charge only	101 – 200	Rs. 1.00 per call + rental charge	201 – 300	Rs. 1.20 per call + rental charge	above 300	Rs. 1.50 per call + rental charge	Phone Number	Name	Total Calls	Amount	01562256755	KVCHURU	97	500	4
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(b)	<p>Read the code carefully and state that what happen when below code will execute.</p> <table border="1"> <tbody> <tr> <td> <p>i).</p> <pre>public class AQuestion { public void method(StringBuffer sb) { System.out.println(sb + "String Buffer Version"); } public void method(String s) { System.out.println(s+ " String Version");} public static void main(String [] args) { AQuestion ob= new AQuestion(); ob.method(null); }}</pre> </td> <td> <p>ii).</p> <pre>public static void main(String [] args) { if("String ".trim()=="String") System.out.println("Equal"); else System.out.println(" NotEqual"); StringBuffer sb=new StringBuffer("String"); if(sb.toString()=="String") System.out.println("Equal"); else System.out.println("Not Equal"); }</pre> </td> </tr> </tbody> </table>	<p>i).</p> <pre>public class AQuestion { public void method(StringBuffer sb) { System.out.println(sb + "String Buffer Version"); } public void method(String s) { System.out.println(s+ " String Version");} public static void main(String [] args) { AQuestion ob= new AQuestion(); ob.method(null); }}</pre>	<p>ii).</p> <pre>public static void main(String [] args) { if("String ".trim()=="String") System.out.println("Equal"); else System.out.println(" NotEqual"); StringBuffer sb=new StringBuffer("String"); if(sb.toString()=="String") System.out.println("Equal"); else System.out.println("Not Equal"); }</pre>	4																
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(c)	<p>Name the class that provide an easy and convenient way to display standard dialogs for posting a information, asking a question or prompting for simple user input. How can import it in your program/ application?</p>	2																		

Section – C

<i>Section – C</i>		
Q6.	Answer the following questions	
(a)	What is Package? Explain various built-in packages of Java.	2
(b)	What is Interface? Write syntax of Interface and implementation of Interface.	2
(c)	<p>What happen when student program execute and justify your answer :</p> <pre> public final class NewClass { public final int xyz=200; public float amt=20.90f; public abstract int method(int a, int b){ return (a+b); } } public class Test extends NewClass{ void getData() { xyz=210; amt=23.90f; } public int method(int x) { return (x*100); }} </pre>	2
(d)	<p>A class Employee contains employee details and another class Salary calculates the employee's net salary. The details of the two classes are given below:</p> <p>Class name : Employee</p> <p>Data members :</p> <p style="padding-left: 40px;">empNo : stores the employee number</p> <p style="padding-left: 40px;">empName : stores the employee name</p> <p style="padding-left: 40px;">empDesig : stores the employee's designation</p> <p>Member functions :</p> <p style="padding-left: 40px;">Employee() : default constructor</p> <p style="padding-left: 40px;">Employee(...) : Parameterised constructor to assign values to employee number, name and designation.</p> <p style="padding-left: 40px;">void display() : display the employee details</p> <p>Class name : Salary</p> <p>Data member</p> <p style="padding-left: 40px;">basic : float variable to store the basic pay</p> <p>Member functions :</p> <p style="padding-left: 40px;">Salary(...) : parameterized constructor to assign values to data members.</p> <p style="padding-left: 40px;">void calculate() : calculate the employee's net salary according to following rules :</p> <p style="padding-left: 80px;">DA = 10% of basic</p> <p style="padding-left: 80px;">HRA = 15% of basic</p> <p style="padding-left: 80px;">Salary = basic + DA + HRA</p> <p style="padding-left: 80px;">PF = 8% of Salary</p> <p style="padding-left: 80px;">Net salary = Salary – PF</p> <p style="padding-left: 40px;">Display the employee details and the Net salary.</p> <p>Specify the class Employee giving details of the constructors and member function void Display (). Using the concept of inheritance specifies the class Salary giving details of constructor and the member function void calculate (). The main function needs to be written.</p>	4

ITEMNO	ITEMNAME	TYPE	DATEOFSTOCK	PRICE	DISCOUNT
INT	VARCHAR	VARCHAR	DATE	INT	INT
5	20	20	-	6	2
Primary Key	Not Null	Reference to TYPE column of item table	Default '10-03-10'	Price < 40,000	Not Null

EMPNO	ENAME	GENDER	DEPTNO	COMM	SALARY
101	RAJINDRA	M	10	120	3488.90
102	SUMITRA	F	10	200	2490.32
103	PANJWANI	F	20		3053.15
104	ANIL KUMAR	M	30	00	4501.89

Q7 Answer the following questions

Write a SQL commands for table FURNITURE

Table: **FURNITURE**

a). Write a MYSQL Command to create a furniture table including all constraints. 2

b). On the FURNITURE table, ITEMNO is the primary key. TYPE is the ITEM type of furniture and refers to the TYPE column of ITEM Table. The DISCOUNT is a NOT NULL column.
Evaluate this DELETE statement:
DELETE ITEMNO, TYPE, DISCOUNT FROM FURNITURE WHERE ITEMNAME='CHAIR';
Why does the DELETE statement fail when you execute it? 2

c). Write a MYSQL quarry to Calculate the discount from the specified percentage and PRICE column. 2

d). Find the output of the following commands:-
i. SELECT SUBSTR(ENAME,1,5), COMM FROM EMPLOYEE WHERE COMM IS NOT NULL;
ii. SELECT EMPNO, ENAME, SALARY, IFNULL(COMM , 'Zero') “ COMMISSION” FROM EMPLOYEE WHERE ENAME LIKE '---J%'; 2

e). Write the MySQL command to remove a GENDER column from Employee table 2