Syllabus of Informatics Practices for Block Test 1 2018-19

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Chapter 1. Computer Overview

1. What is data? What is information?
2. Name the subunits of CPU and give the function of each unit.
3. What is function of memory? What are its measuring units?
4. What are difference between hardware, software and firmware?
5. Which of the following are software and hardware?
   i) Transistor ii) Fortran iii) Compiler iv)Integrated Circuit
6. Name the super computers developed in India.

Chapter 2. Software Concepts

1. What is Booting? Explain its steps.
2. What are different types of booting? How they are different from each other?
3. How interpreter is different from compiler?
4. Define following terms:-
   a. Disk Cleanup tool
   b. Disk Fragementer
   c. Backup Utility
5. Mention functions of OS. Explain each of therm.
6. Define the following terms:-
   a. Throughput
   b. CPU Utilization
   c. Turnaround Time
   d. Waiting Time
   e. Response Time
   f. FCFS
   g. SJN
   h. Deadline Scheduling
   i. Robin Round Scheduling
   j. Response Ratio Scheduling

Chapter 3: Getting Started with Programming using IDE

1. When you compile a program written in the JAVA programming language, the compiler converts the human readable source file into independent code that a JVM can understand? What is this platform independent code called?
2. How can you say JAVA is both programming language and platform?
3. How ordinary compilation is different from JAVA compilation?
4. What do you understand by JVM?
5. What is Write Once Run Anywhere characteristics of JAVA?
6. What are container controls?

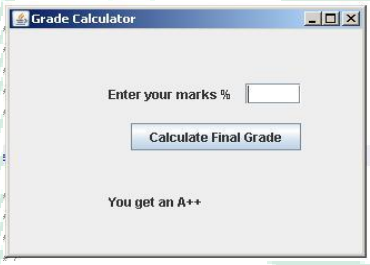
7. Explain the following:-
   a. Event b. Event Driven Programming c. Event Source d. Event Source

Chapter 4: Programming Fundamentals

1. Write the corresponding C++ expressions for the following mathematical expression:-
   a. $2\text{-}ye^{2y}+4y$ b. $p+q/(r+s)^4$ c. $|e^x\text{-}x|$ d. $\sqrt{a^2+b^2}$
2. Distinguish between a unary, a binary and a ternary operator. Give example for each.
3. What will be the result of following two expressions if i=10 initially?
   a. ++i<=10 b.i++<=-10
4. Given the two following expressions:-
   a. Val=3 b. Val==3
   i. How are these two different?
   ii. What will be the result of the two if the value of Val is initially 5?
5. Consider the following code snippet:-
   int i=10;
   int n=i++%5;
   What will be value of i and n after the code is executed?
6. What is a literal and identifier?

Chapter 5: Flow of Control

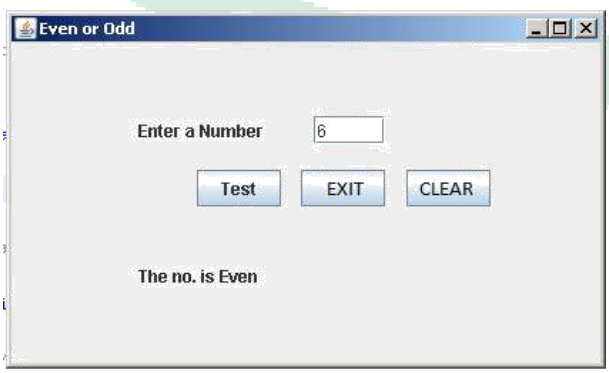
1. A GUI application having interface as shown below:



The percentage marks are to be entered in the text box(txtMarks) and upon clicking at the button(btnCalc), corresponding Grade as per the rules given below:

Marks%	Grade
>90	A++
81 – 90	A+
75 - 80	A
61 – 74	B
51 – 60	C
40 – 50	D
<40	Fail

2. Write the Code for the following GUI program.



i. Obtain the number from user and tell whether the number is Even or Odd.
ii. Write code to clear the textfield in the above GUI program.
iii. Write code to exit the GUI application.

3. Write six differences between switch case and if-else.
4. Rewrite the following fragment:

Using switch	Using while loop

if(ch=='E')
Eastern++;
else if(ch=='W')
Western++;
else if (ch=='N')
Northern++;
else if (ch=='S')
Southern++;
else
Unknown++;
	int sum =0;
	for (int i=1;i<=5;++i)
	{
	sum = sum + i;
	}

Chapter 6: Java IDE Programming -1

1. Name two Top level containers.
2. Write the name of the java swing controls to be used in the GUI for
   (i) Select any one Gender (Male / Female)
   (ii) Select one country from all the countries present
   (iii) Select one or more subject of specialization from any list
   (iv) Submit the form for adding record.
3. What is the difference between a text field and a text area?
4. What are these methods used for?
   (i) isEditable() (ii) setEditable()
5. Differentiate between:-
   (a) Label and Text field (b)Checkbox and Radio button
6. Rajni Raghav works for a Computer Institute. He wishes to create controls on application form for 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 :

S.No.	Function / Purpose of Control	Control
1	Enter Applicant Name	
2	Enter Gender	
3	Enter Course from a List of choices	
4	Submit Form	

Chapter 10-12

1. Suppose table T1 has 4 rows and 2 columns and another table T2 has 3 rows and 2 columns. Find the degree and cardinality of table T3 which is the Cartesian product of T1 and T2
2. Define Primary Key. How is PRIMARY KEY constraint different from UNIQUE key constraint?
3. Differentiate between the following:-
   a. UPDATE and ALTER command
   b. DDL and DML statement
4. Observe the table 'Club' given below:

Member_id	Member_Name	Address	Age	Fee
M002	Nisha	Gurgaon	19	3500

M003	Niharika	New Delhi	21	2100
M004	Sachin	Faridabad	18	3500

i. Write SQL Command to display Member_Name begins with N letter.

ii. Write SQL Command to change Fee of "Niharika" from "2100" to "3500".

iii. If a new column contact_no has been added and three more members have joined the club then how these changes will affect the degree and cardinality of the above given table.

5. Differentiate between DEFAULT and CHECK constraint of table with example.
6. What will be the output of following code?
   (i) SELECT LOWER(CONCAT('Informatics', 'Practices'));
   (ii) SELECT INSTR('INFORMATICS PRACTICES','OR');
7. Difference between DDL and DML commands of SQL with example.
8. Rahul wants to create a table STUDENT which can store Roll number, name, address and percentage in SQL. Write the command to create the table STUDENT (Decide the type and size of column on your own).
9. Answer the question based on the table given below:

TABLE: Student

Column Name	Data Type	Size	Constraint
Roll_No	NUMBER	4	PRIMARY KEY
Name	VARCHAR	20	Not Null
Stipend	NUMBER	7	Stipend is greater than 0
Stream	VARCHAR	15	Not Null
Grade	VARCHAR	1	

i. Write the SQL command to create the above table with constraints.
ii. Insert 2 records with relevant information, in the table student
iii. Display all the records of the table Student.
iv. Delete the Student Whose Roll no is 100.
v. Change the Stream of Student to 'Computer' Whose Roll no. is 536.
vi. Add one column email of data type VARCHAR and size 30 to the table Student.
vii. View structure of the table created by you.
viii. Drop the table Student.
ix. Make the all changes permanently.

5. Answer the question based on the table given below:

TABLE : HOSPITAL

No.	Name	Age	Department	DatoFadm	Charges	Sex
1	Arpit	62	Surgery	21/01/98	300	M
2	Zareena	22	ENT	12/12/97	250	F
3	Kareem	32	Orthopedic	19/02/98	200	M
4	Arun	12	Surgery	11/01/98	300	M
5	Zubin	30	ENT	12/01/98	250	M

6		Ketaki	16	ENT	24/02/98		250	F
7		Ankita	29	Cardiology	20/02/98		800	F
8		Zareen	45	Gynecology	22/02/98		300	F
9		Kush	19	Cardiology	13/01/98		800	M
10		Shilpa	23	Nuclear Medicine	21/02/98		400	F

(a) To list the names all the patients admitted after 15/01/98.
(b) To list the names of female patients who are in ENT department.
(c) To list names of all patients with their date of admission in ascending order.
(d) To display Patient's Name, Charges, Age for only female patients.

Find Out the Output of Following SQL Command:-

(i) Select COUNT(DISTINCT charges) from HOSPITAL;
(ii) Select MIN(Age) from HOSPITAL where Sex="F";

SERVICE
BEFORE
SELF
DELHI
PUBLIC
SCHOOL