



**INDIAN SCHOOL SOHAR**  
**FINAL EXAMINATION (2016-2017)**  
**INFORMATICS PRACTICES**

**Class: XI**  
**Date: 07-03-17**

**Marks: 70**  
**Time: 3 hours**

**Instructions:**

- a. All the questions are compulsory.**  
**b. Answer the questions after carefully reading the text.**

1. Answer the following questions:
  - a. Define Spyware and Computer Threats. 2
  - b. Differentiate between a compiler and interpreter. 2
  - c. What is the use of AGP ports and Parallel ports? 2
  - d. What do you mean by Desktop Publishing Software and Presentation Graphics Software? 2
  - e. What is the difference between OCR and OMR? 2
  
2.
  - a. Explain corrective and preventive maintenance. 2
  - b. Write the result of the following Java expression: 1  
byte a = 5, b=0, c; c = (byte)(-a++ \* b--); System.out.println("Result:" + c);
  - c. Name the control which display the default character '•' instead of typed character. 1
  - d. What is the use of: 2  
int[ ] getSelectedIndices() and object getSelectedvalue() ?
  
3.
  - a. Predict the output of the following java construct: 2  
int m=5; int prod=1; int i=1;  
while(i<=5)  
{  
prod=prod+prod\*(m%2);  
-m;  
++i;  
}  
System.out.println(""+prod);
  - b. Rewrite the corrected code . 2  
int i=2, j=5;  
while j>i  
{ jTextField1.getText("j is greater");  
j--; ++i;  
} JOptionPane.showMessageDialog("Hello");
  - c. Write a Java application to add n number of selected items from jListBox to jComboBox. 2
  - d. Write the corresponding Java expressions for the following mathematical expression: 2
    1.  $X = \log\left(\sqrt{2 * \frac{a}{b^2}}\right)$
    2.  $c = \sin^2(x) + \cos^2(x)$

- e. Write a program to program to print the sum of the series:

$$\frac{1}{x} + \frac{-1}{x^2} + \frac{1}{x^3} + \frac{-1}{x^4}$$

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- f. Rewrite the following program code using a while loop:

```
int i, j;  
for(i=1, j=2; i<=6; i++, j+=2)  
System.out.println(i++);  
System.out.println("Finished!!!");
```

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- g. Given the following code fragment :

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```
If(a==0)  
System.out.println("zero");  
If(a==1)  
System.out.println("one");  
If(a==2)  
System.out.println("two");  
If(a==3)  
System.out.println("three");  
Write an alternative code (Using Switch statement).
```

4. On behalf of the following GUI, answer the questions that follows:

The image shows a Java Swing window titled "ICICI Bank". Inside the window, there are several input fields and controls:

- Principal**: A text input field.
- Time**: A text input field.
- Rate**: A text input field.
- Account Type**: A group box containing two radio buttons: "Fixed Deposit" (which is selected by default) and "Recurring Deposit".
- Senior Citizen**: A checkbox.
- Calculate**: A button.
- Clear**: A button.
- Interest**: A text input field.
- Amount**: A text input field.

- (a) Write the code for the Clear button to clear all the textfields and checkbox. Set the default choice in the radio button as Fixed Deposit.
- (b) Write the code for the calculate button to calculate compound interest and amount and display the values in the txtInterest and txtAmount depending on principal, rate and time. Rate is calculated based on the time according to the following table:  $A = P * (1 + \frac{r}{100})^t$  where r = rate of interest , t = time, P = Principal amount.

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Account	Time	Rate
Fixed Deposit	<= 1	10%
	>1 and <=5	12%
	>5	15%
Recurring Deposit	<= 2	11%
	>2 and <=7	12%
	>7	15%

An additional rate of 2% is given to the senior citizens i.e. if the chkSR checkbox is checked

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5. Consider a database table SchoolBus and answer the following MySQL queries:

Column Name	Data Type	Size	Constraint
Rtno	Integer		Primary Key
Area_overed	Varchar	25	Not Null
Capacity	Integer		
No_Of_St	Integer		
Distance	Decimal	3.2	
Transporter	Varchar	30	
Charges	Integer		
Serv_St_Dt	Date		

a. Write the SQL command to create the table SchoolBus as per the structure given above:

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Table: SchoolBus

Rtno	Area_Covered	Capacity	No_Of_St	Distance	Transporter	Charges	Serv_St_Dt
1	Vasant Kunj	100	120	10	Shivam Travels	80000	2014-04-01
2	Hauz Khas	80	80	10	Anand Travels	65000	2015-02-01
3	Pitampura	60	55	30	Anand Travels	100000	2014-09-05
4	Rohini	100	90	35	Bhalla Travels	100000	2013-01-01
5	Yamuna Ngr	50	60	20	Yadav Co.	60000	2016-02-03
6	Barakhamba	70	80	30	Yadav Co.	95000	2016-01-01
7	Vasundhra	100	110	20	Kisan Tours	75000	2015-03-07
8	Paschim Vihar	40	40	20	Speed Travels	55000	2014-08-05
9	Saket	120	120	10	Speed Travels	80000	2015-06-06
10	Janak Puri	100	100	20	Anand Travels	85000	2016-11-12

- b. Show all the information of students where capacity is more than the no of students. 1
  - c. Display the area\_covered for buses covering more than 20 km., and charges are between the range from 80000 to 100000. 1
  - d. To show rtno, area\_covered and average cost per student for all routes where average cost per student is - charges/ No\_Of\_St. 1
  - e. Add a new record as: (11, Moti bagh, 35, 32, 10, kisan tours , 35000,2017-01-01) 1
  - f. Increase the size of Area\_Covered to 30. 1
  - g. Remove primary key from the table SchoolBus. 1
  - h. Delete all the records whose start date is before 2014. 1
  - i. Add one more column named "Service" of string data type with size 10. 1
  - j. List details of transporters whose name starts with 'A' and has 'L' as 2<sup>nd</sup> last characters. 1
  - k. Display the name of different transporters. 1
  - l. Show all the records. If Service start date is not known, display 'Date not Known' 1
  - m. Change transporter Yadav Co. to Rajhans Travels for Rtno 6. 1
  - n. Show the last two characters of the name of area covered for the year 2016. 1
  - o. List a report as <Transporter> covering <Area\_Covered> charging Rs <Charges> 1
6. Write the output of the following MYSQL commands:
- a. Select SUBSTR(TRIM(' INDIA IS GREAT '),3,9); 1
  - b. Select INSTR('sea shells' , 'a') from SchoolBus ; 1
  - c. Select Concat('CO',MID('Student',-7,2)); 1
7. Find the errors from the following MYSQL commands:
- a. Select POWER(3,2) + TRUNCATE(10.67); 1
  - b. SELECT RIGHT('USS/23/67/09'); 1
  - c. Select LENGTH('CANDIDATE', 3) "Length"; 1
8. Answer the following questions:
- a. **What is the purpose of using MYSQL?** 1
  - b. What do you mean by Foreign Key Constraint ? 1
  - c. Differentiate between DDL and DML commands. 2
  - d. **What is the use of function ROUND and TRUNCATE?** 2
  - e. **Differentiate between sysdate and now.** 2
9. Answer the following questions:
- a. Define e-Governance. 1
  - b. Write four strategies and action plans to counter e-Learning challenges. 2
  - c. Explain the drawbacks of E-Business. 2