(Sub Code: 065 Paper Code 90 Outside Delhi)

General Instructions:

- Marking scheme is the final document for all references with regard to evaluation and cannot be altered under any circumstance.
- The answers given in the marking scheme are SUGGESTIVE. Examiners are expected to award marks for all alternative correct Solutions/Answers conveying the similar meaning.
- All programming questions have to be answered with respect to Java Language only.
- In Java, ignore case sensitivity for identifiers (Variables / Functions / Structures / Class Names).
- In SQL related questions:
 - A. Both ways of text/character entries should be acceptable. For example: "AMAR" and 'amar' both are acceptable.
 - B. All date entries should be acceptable for example: 'YYYY-MM-DD', 'YY-MM-DD', 'DD-Mon-YY', "DD/MM/YY", 'DD/MM/YY', "MM/DD/YY", 'MM/DD/YY' and {MM/DD/YY} are correct.
 - C. Semicolon should be ignored for terminating the SQL statements.
 - D. Ignore case sensitivity for commands.
 - E. Ignore headers in output questions.

		Shore headers in output duestions.	
1	(a)	Vidya College has three departments that are to be connected into a network. Which of the following communication medium (out of the given options), should be used by the college for connecting their departments for very effective High Speed communication? Coaxial Cable Optical Fiber Ethernet Cable Also name the type of network (out of PAN/LAN/WAN) formed.	2
	Ans	Optical fiber LAN	
		(1 mark each for each correct answer)	
	(b)	State reason why Star topology requires more cable length than Bus topology.	2
	Ans	As Star topology involves a central hub or switch to which all individual node(s) are connected with individual cable, therefore more cabling is required than Bus topology.	
		(2 marks for correct answer) Note: Full 2 marks to be allotted if reason represented with the help of diagram	
	(c)	Seema needs a network device that should regenerate the signal over the same network before the signal becomes too weak or corrupted. Amit needs a network device to connect two different networks together that work upon different networking models so that the two networks can communicate properly. Name the devices that should be used by Seema and Amit.	2
	Ans	Seema should use Repeater Amit should use Gateway	

		(1 mark for each correct answer) Note: ½ mark for mentioning Router instead of Gateway	
	(d)	How is a domain name related to an IP address?	2
	Ans	Each domain name has a corresponding IP Address.	
		 (2 marks for correct answer) Note: Full 2 marks to be allotted if reason represented with the help of example. Full 2 marks to be allotted if definitions of Domain name and IP address are stated. 	
	(e)	How is firewall useful in ensuring network security?	2
	Ans	A Firewall permits only that data to enter or leave a computer/Network for which permissions have been granted by the computer/network administrator.	
		(2 marks for correct answer)	
2	(a)	Identify the odd one out of the following Java statements. State reason for your choice i) for ii) do while iii) switch iv) while	1
	Ans	iii) switch switch is a selection statement but others are looping / iteration statements.	
		(½ mark for identifying) (½ mark for reason)	
	(b)	Write the purpose of parseInt() method.	1
	Ans	parseInt() converts a String value to Integer data type.	
		(1 mark for correct answer)	
	(c)	Identify invalid variable names out of the following. State reason if invalid. (i) for (ii) -salary (iii) salary12 (iv) product	1
	Ans	Invalid variable names: i) for and ii) -salary Reason: i) 'for': is a keyword ii) '-salary': variable name cannot start with special character	
		(½ mark each for each correct answer) Note: ½ mark to be awarded if reason not mentioned	
	(d)	What is the difference between statements (i) and (ii) (i) t = 2; (ii) if (t == 2) d = 3;	1

Ans	In (i) variable 't' is being assigned the value 2 whereas in (ii) 't' is being checked for equality with 2 OR	
	In (i) assignment operator is used and in (ii) relational operator '==' is used.	
	(1 mark for mentioning correct difference)	
(e)	Write HTML tags to do the following: (i) Inserting a horizontal line in a web page. (ii) Inserting a line break	2
Ans	(i) <hr/> or <hr/> (ii) or	
	(1 mark each for each correct answer) Note: Full 1 mark to be allotted if or <p> tag is mentioned as answer of (ii) part.</p>	
(f)	What does 'XML' stand for? How is the purpose of HTML different from XML?	2
Ans	XML stands for eXtensible Markup Language. HTML is used to create web pages / display data whereas XML is used to describe/store/transport data.	
	(1 mark for expanding XML) (1 mark for correct difference) Note: Full 1 mark to be allotted if only purpose of HTML is specified.	
(g)	<pre>Rewrite the following code using if else if statement: switch(depcode) { case 1 : allowance = 4000; break; case 2 : allowance = 3200; break; default : allowance = 1000; }</pre>	2
Ans	<pre>if (depcode == 1)</pre>	
	(2 marks for correct if-else-if construct and conditions) (1 mark for correct use of if -else-if construct) (1 mark for correct conditions)	

3	(a)	What is the meaning of 'Open source' in the term 'Open Source Database Management System'?					
	Ans	Open source means that the software can be studied, copied, redistributed freely and even modified according to one's need without seeking any kind of permission. In order to modify such software the developers also provide the source code to the users.					
		(1 mark for correct answer)					
	(b)		ployee', a column 'Occupation' contains many duplicate keyword would you use if you wish to list only different				
	Ans	Ans The DISTINCT keyword can be used to return only distinct (differ values.					
		(1 mark for correct answer)					
	(c)	How is ALTER TABLE statement	different from UPDATE statement?	1			
	Ans	ALTER TABLE	UPDATE				
		To modify structure of a table					
		DDL command	To modify data in a table. DML command				
		DDL Command	DML COMMINAND				
		(1 mark for any correct difference) Note: 1 mark to be awarded if explained using example					
	(d)	Charvi wants to delete the records where the "FirstName" is "Rama" in the 'Emp' Table. She has entered the following SQL statement. An error is being displayed. Rewrite the correct statement. DELETE 'Rama' FirstName FROM Emp;					
	Ans	DELETE FROM Emp WHERE Fi OR DELETE FROM Emp WHERE Fi					
		(1 mark for correct answer)					
	e (i)	Name 2 Group (Aggregate) funct	ions of SQL.	1			
	Ans	SUM(), MAX(), MIN(), AVG(), COL	JNT(), COUNT(*)				
		(½ mark each for any 2 Group Note: Function names without correct answers.	functions) parentheses also to be accepted as				
	e(ii)	Consider the table:		1			
			le: Company				
		CompanyCod					
		C101	13000				
		C102	NULL				
		C104	7000				
		C105	4000				
		What output will be displayed b					
		SELECT AVG (Donations) F	ROM Company;				

Ans	8000					
	(1 mark for	correct answer)				
(f)	Given below	is the 'Emp' table:				
	ENO	NAME				
	1	Anita Khanna				
	2	Bishmeet Singh				
	CEM AIMOC	OMMIT = 0;				
		TO Emp VALUES(5,	Farzia');			
	COMMIT;	• , ,	• •			
		=	zziya' WHERE Eno= 5;			
	SAVEPOINT INSERT IN	A; TO Emp VALUES(6,	Richard'):			
	SAVEPOINT	=				
		TO Emp VALUES (7,	Rajyalakshmi');			
	SAVEPOINT	•				
		•	lowing SQL query now:			
	SELECT *	•	3 - 2 - 4 - 7			
Ans	ENO NAME					
	ENO	NAME				
	1 Anita Khanna					
	2	Bishmeet Singh				
	5 Farzziya 6 Richard					
	6	Richard				
	(½ mark)	for each correct line	of output)			
(g)	Consider the table below.					
		Table: Company				
	EMPI	D DEPARTMENT	SALARY			
	E101	PERSONNEL	60000			
	E102	ACCOUNTS	65000			
	E103	MARKETING	40000			
	E104	PERSONNEL	62000			
	E105	PERSONNEL	50000			
	E106	MARKETING	35000			
	SQL statements SELECT De FROM Comp	nt. partment, Salary	QL statement. Rewrite the correct			

	_		
	Ans	Some aggregate function like AVG(), SUM(), MAX(), MIN() etc. should be mentioned with SELECT. SELECT DEPARTMENT, AVG(SALARY) FROM COMPANY GROUP BY DEPARTMENT; OR Instead of GROUP BY, ORDER BY may be used. SELECT DEPARTMENT, SALARY FROM COMPANY ORDER BY DEPARTMENT; OR GROUP BY DEPARTMENT is not required SELECT DEPARTMENT, SALARY FROM COMPANY; OR No Error	
		(2 marks for correct answer) Note: Full 2 marks to be allotted if correct statement is written without identification of error.	
4	(a)	Identify programming languages out of the following: HTML,C++, JAVA,MySQL	1
	Ans	C++, Java	
		($\frac{1}{2}$ mark each for correct identification of programming languages)	
	(b)	Write Java statement to extract selected item from a given listbox named "jList1."	1
	Ans	<pre>String X = (String) jList1.getSelectedValue(); OR String X=jList1.getSelectedValue().toString();</pre>	
		(1 mark for correct answer) Note: ½ mark to be allotted if only getSelectedValue() is mentioned.	
	(c)	<pre>What will be displayed in jTextField1 and jTextField2 after the following code is executed: int t; int x; x = 12; t = (3*x++)/3; jTextField1.setText(" "+t); jTextField2.setText(" "+x);</pre>	1
	Ans	12 will be displayed in jTextField1 13 will be displayed in jTextField2	
		(½ mark for each correct answer)	
	(d)	Write the output that will be displayed in the textfields by the following Java code:	2

```
String x;
      String stream="Commerce";
      jTextField1.setText((stream.length()+9)+"");
      x = stream.concat("Humanities");
      jTextField2.setText(x);
      jTextField3.setText(" "+x.substring(2,5));
      jTextField4.setText(stream.toLowerCase());
Ans
      jTextField1 : 17
      jTextField2 : CommerceHumanities
      jTextField3 : mme
      jTextField4 : commerce
      (1/2 mark for each correct line of output)
(e)
      Write the value that will be stored in variable sum after execution of
      following code:
      int sum = 0, m=4;
      for(int i=9;i>=6;i--)
           if(i%3==0)
           sum = sum + i;
           else
           sum = sum - i;
       }
Ans
      sum = 0
      (2 marks for correct value of sum)
(f)
      The following code has error(s). Rewrite the correct code underlining |2
      all the corrections made:
      int a = 0:
      int b = 15;
           do ;
                 a=a+3;
                 b = b-3;
                 while a \le b;
Ans
      int a = 0;
      int b = 15;
           do
                 1
                 a = a + 3;
                 b = b-3;
                 <u>}</u>
           while (a \le b);
      (1/2 mark for correcting each error)
      (1 mark for only identifying any four errors - without making any
      corrections)
```

(g)	Ms. Sharma works as a prowhere she has designed a so the client. A screenshot of the client of the client of the client.	oftware to compute c	harges to be paid by	
	ABC C. NAME PHONE NUMBER	AR RENTALS		
	O Deluxe Car O Semi Deluxe Car Ordinary Car	GUIDE REQUIRED		
	Car Required for No. of Days CALCULATE Amount	CLEAR CLOSE		
	Guide Charges Total Amount			
	A client can take any car out rent. A client can also opt for services on the type of car opted. Charges of services of Guide Help Ms. Sharma in writing to (i) After selecting appropries appropries and Total Amount services and Total Amount services.	rices of a guide. Chargare are extra. he code to do the fol priate Radio Button TE' button is click	ges vary depending lowing: and checkbox (if ed, Amount, Guide	2
	Category of Car	Amount(in Rs.)		
	Deluxe Car	1000 per day		
	Semi Deluxe Car	800 per day		
	Ordinary Car	700 per day		
	Amount is obtained by multipof days for which the car is to the information of Guide Required' checkbooks. Solution of the car is the information of the information	taken. ix is selected, Guide as :Car required for N	charges per day are	2
Ans	<pre>// Calculation of Amount if (jRadioButton1.isSo jTextField3.setTex Integer.parseInt(jText if (jRadioButton2.isSo</pre>	elected()) xt("" + 1000* tField2.getText()));	

```
iTextField3.setText("" + 800*
         Integer.parseInt(jTextField2.getText()));
         if (jRadioButton3.isSelected())
              jTextField3.setText("" + 700*
         Integer.parseInt(jTextField2.getText()));
         //Calculation of Guide Charges
         if(jCheckBox1.isSelected())
               jTextField4.setText("" + 500*
         Integer.parseInt(jTextField2.getText()));
         //Total Amount
         jTextField5.setText("" +
         (Integer.parseInt(jTextField3.getText())+
         Integer.parseInt(jTextField4.getText())));
         (1 mark for correct use of if statement used for calculating
         amount)
         (1 mark for calculating and displaying Amount)
         (1 mark for calculating and displaying Guide Charges)
         (1 mark for calculating and displaying Total Amount )
         When 'CLEAR' button is clicked, all the textfields and checkboxes
  (ii)
         should be cleared.
         jTextField1.setText("");
  Ans
         jTextField2.setText("");
         jTextField3.setText("");
         jTextField4.setText("");
         jTextField5.setText("");
         jTextField6.setText("");
         jCheckBox1.setSelected(false);
         ( ½ mark for clearing any text field)
         ( ½ mark for clearing check box)
         Note: NULL in place of "" to be accepted for clearing text field.
  (iii)
         When 'CLOSE' button is clicked, the application should close.
                                                                        1
         System.exit(0);
         (1 mark for correct answer)
5
         Srishti has created the following table with the name 'Veterinary'.
  (a)
            Column Name
                                  Constraint
            Animalld
                                  Primary Key
            VacinnationsDate
            AnimalName
                                  Not Null
            OwnerName
         One of the rows inserted is as follows:
                    VacinnationDate | AnimalName | OwnerName
          Animalld
          A101
                    2015-02-12
                                     Sheru
                                                  Amit Sharma
```

(i)		What are the data type of columns AnimalId and VacinnationDate in the table Veterinary ?						
Ans		of AnimalId of Vaccination	: Varchar/cha Date : Date	r				
	NOTE : At	•	oning correct data VaccinationDate, Va	type) ccinationsDate may be				
(ii)		ow trying to in	sert the following ro					
	Animalld	VacinnationD	-	OwnerName				
	A102	2015-08-09	NULL	Abhimanyu Shah				
	Will she be	e able to succe	ssfully insert it? Give	e reason.				
Ans	No Reason - N	lot Null Constra	aint applied on attrib	oute AnimalName				
	(½ mark f (½ mark	for 'NO') for correct red	ason)					
(b)	Write the	output of the f	ollowing SQL queries	S:	2			
(i)	SELECT M	MID('Learnin	gIsFun',2,4);					
Ans	MID('Lea	rningIsFun'	,2,4)					
	(½ mark f	or correct out	put)					
(ii)	SELECT F	ROUND (76.384	,2);					
Ans	ROUND (76 76.38	5.384,2)						
	(½ mark f	or correct out	put)					
(iii)	SELECT I	NSTR ('INFOR	MATION FORM','R	M');				
Ans	INSTR('I	NFORMATION	FORM','RM')					
	(½ mark f	or correct out	put)					
(iv)	SELECT D	AYOFYEAR ('2	015-01-30');					
Ans		AR('2015-01-						
	(½ mark f	or correct out	put)					
(c)	Table "Order" is shown below. Write commands in SQL for (i) to (iv) and output for (v) and (vi) Table: Order							
	Orderld	OrderDate	SalesPerson	OrderAmount				
	0101	2015-09-12	Ravi Kumar	34000				
	0102	2015-08-15	Rashmi Arora	50000				
	0103	2015-11-01	Ravi Kumar	55000				
	0104	2015-12-09	Manjeet Singh	60000				
	1		-		- 1			

(i)	To display names o	of Salespersons (without duplicates).			
Ans	SELECT DISTINCT FROM Order;	T SalesPerson			
	(½ mark for SELI (½ mark for DIS	· · ·			
(ii)	To list Orderid and order amount.	respective Order amount in descending order of			
Ans	SELECT OrderId FROM Order ORDER BY Order	•			
	(½ mark for SELI (½ mark for ORDI	· · ·			
(iii)	To count the numb	ber of orders booked by Salespersons with name	5		
Ans	SELECT COUNT(*) FROM Order WHERE SalesPers				
	(½ mark for SELECT) (½ mark for condition using WHERE)				
(iv)	To list Order ids, or after 1st September	rder dates and order amounts that were booked r 2015.			
Ans	FROM Order WHERE OrderDate OR	.,OrderDate,OrderAmount e >'2015-09-01'; .,OrderDate,OrderAmount e > 20150901;			
	(½ mark for SELECT) (½ mark for condition using WHERE)				
(v)	SELECT OrderId	, OrderAmount FROM Order where tween 50000 and 60000;			
		OrderAmount			
Ans	OrderId				
Ans	OrderId O102	50000			
Ans		50000 55000			
Ans	0102				
Ans	0102 0103	55000			
Ans	0102 0103 0104	55000 60000 50000			

	Ans	1					
		<u>c</u>	oncat(Orde	rId,SalesPerso	<u>on)</u>	<u>length(SalesPerson)</u>	
		0	101Ravi Ku	mar		10	
		O102Rashmi Arora				12	
		0	103Ravi Ku	mar		10	
		0	104Manjeet	Singh		13	
		0	105Rashmi	Arora		12	
		(1	mark for cor	rect output)			
		is (or mentioning that 'Order' not be used as a Table	
6	(a)	Wr	ite SQL query	to create a table	'Song'	with the following structure:	2
			Field	Type	Cons	straint	
			Songid	Integer	Prim	ary key	
			Title	Varchar(50)			
			Duration	Integer			
			ReleaseDate	Date			
	Ans	(Title \ Duration Release	Integer PRIMA Varchar(50), on Integer, eDate Date	RY KE	EY,	
		(1/2	mark for Pr	REATE TABLE) imary Key cons umn Names with			
	(b)	Col	nsider the tab	les given below.			2
			Table: Party				
			Partyld	Description	Co	stPerPerson	
			P101	Birthday	400)	
				Birthday Wedding	700		
			P101			0	

	ClientId	ClientName	Address	Phone	NoOfGuests	Partyld
	C101	A.K. Antony	A-151, Adarsh Nagar	99101956	80	P101
	C102	Fauzia Aria	K-5/52, Vikas Vihar	893466448	500	P102
	C103	Rashi Khanna	D-6, Hakikat Nagar	981166568	50	P101
	C104	S.K. Chandra	76-A/2, MG Colony, Adarsh Avenue.	65877756	100	P104
i)	Name the	Primary key	s in both the ta	ables		
Ans	Primary k	key (Table : F	Party) - Partyld Client) - Clientlo			
	(½ mark	each for ide	ntifying Primar	y key)		
ii)		•	twice in colum ? Give reason fo	•		able - Is
Ans	There is no discrepancy. Partyld is not the Primary key in table Client, hence repetition is permissible. (1 mark for valid reason)					
Ans						
(c)			above given tat d output for (iii)	, -	, ,	ımands i
(i)		scription who	nes of clients, to will have nun	•		-
Ans	P.DESCR FROM PA WHERE P AND C.N OR SELECT P.DESCR FROM PA WHERE P AND C.N OR SELECT	CLIENT: CL	<pre>= C.PARTYID</pre>	E, C.PAR'	TYID,	

	(2 marks for correct output) OR (2 marks for mentioning Error)						
	C104	S.K.Chandra	100	Engangement	450		
	C103			Birthday	400		
	C101	_		Birthday	400		
	ClientId	<u>ClientName</u>	<u>NoOfGuests</u>	Description	CostPerPerson		
	50 AND 1	-	rcy.Party10	AND NOOT	Juests BETWEEN		
(iii)	descript	lientId, Cla	person, FRO	M Client, I	Party WHERE Guests BETWEEN	2	
	(1/2 mark f	or SELECT) for FROM) for condition u	sing where)				
Ans	FROM CLI	LIENTID, AD ENT DRESS LIKE	,				
(ii)	clients wh	Client Ids, to have 'Adarsh ClientName	anywhere in	their addresse		2	
	(½ mark f (½ mark f	(½ mark for SELECT) (½ mark for FROM) (½ mark for correct use of join) (½ mark for correct use of condition)					
	FROM PARTY P, CLIENT C WHERE P.PARTYID = C.PARTYID AND NOOFGUESTS > 50; NOTE : && May be considered in place of AND						
	OR SELECT CLIENTNAME, PHONE, P. PARTYID, DESCRIPTION						
	SELECT OF FROM PARTICLE PARTIC	CLIENTNAME, P RTY, CLIENT ARTY.PARTYID GUESTS > 50	CLIENT.	·	ESCRIPTION		
	WHERE PA	RTY, CLIENT ARTY.PARTYID ANT.NOOFGUES		PARTYID			
	CLIENT.	CLIENT.CLIE	•	•	,		

7	(a)	How is an e-commerce business more cost effective than traditional business? Write two points.				
	Ans	 Learning at own pace Learning any time Learning any topic 				
	(b)					
	Ans					
	(1 mark for any one valid point) (c) Ms. Ariya is creating a form for PAN CARD application. Help					
		choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and Command Button for the following entries.				
		S.N	p. Function			
		1	To enter NAME			
		2	To enter MOBILE NUMBER			
		3	To allow user to choose one CATEGORY ou categories : Company, Trust, Individual.	ıt of the		
		4	To enter NATURE OF BUSINESS/PROFESSION of a paragraph	ON in the form		
	Ans					
		S.No	Function	Control		
		1	To enter NAME	TextField		
		2	To enter MOBILE NUMBER	TextField		
	3	To allow user to choose one CATEGORY out of the categories: Company, Trust, Individual.	RadioButton/ ComboBox			
		4	To enter NATURE OF BUSINESS/ PROFESSION in the form of a paragraph	TextArea		
		(½ ma	rk for each correct answer)			