

DAV PUBLIC SCHOOL HEHAL, RANCHI
Marking scheme(3rd Practice Test-2017-18)

Subject: Computer Science(083)

Date of Exam : 30-12-2017

Q.No.	Answer	Marks		
1	a) (i) new- Keyword (ii) While- Identifier (iii) case- Keyword (iv) Num_2- Identifier	½ for each		
	b) string.h , iostream.h	½ for each		
	c) void main() { cout<<"Enter an Alphabet:"; char CH; // Error 1 cin>>CH; switch(CH) { // Error 2(i) case 'A' : // Error 3(i) cout<<"Ant"; break; // Error 4(i) case 'B' : // Error 3(ii) cout<<"Bear"; break; // Error 4(ii) } // Error 2(ii) }	½ marks for each correction or 1 marks for identifying errors only		
	d) Ans :22#40#9#13#	½ for each		
	e) Ans :12*63*73*15*93*10*	½ for each		
	f) Correct Options : (ii) and (iii)(1 marks) Maximum value of N = 2 Maximum value M = 3(1/2 marks each)	2 marks		
2 a)	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">private Implicit Visibility Mode Not accessible to member functions of derived class Example: class A { int X; protected: int Y; public: void Z(); };</td> <td style="width: 50%; border: none; text-align: center;">protected Explicit Visibility Mode Accessible to member functions of derived class</td> </tr> </table>	private Implicit Visibility Mode Not accessible to member functions of derived class Example: class A { int X; protected: int Y; public: void Z(); };	protected Explicit Visibility Mode Accessible to member functions of derived class	1 marks for difference & 1 marks for example
private Implicit Visibility Mode Not accessible to member functions of derived class Example: class A { int X; protected: int Y; public: void Z(); };	protected Explicit Visibility Mode Accessible to member functions of derived class			
	b) (i) Polymorphism OR Constructor overloading OR Function Overloading (ii) TEST T1; //Statement 1 TEST T2(T1); //Statement 2 OR TEST T2=T1; //Statement 2	1 marks for each		
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">c) class BOX { int BoxNumber ; float Side ; float Area ; void ExecArea() { Area=Side*Side;} public: void GetBox(); void ShowBox(); }; void BOX::GetBox() { cin>>BoxNumber>>Side;</td> <td style="width: 50%; border: none; text-align: center;">ExecArea(); } void BOX::ShowBox() { cout<<BoxNumber<<" "<<Side<<" "<<Area<<endl; }</td> </tr> </table>	c) class BOX { int BoxNumber ; float Side ; float Area ; void ExecArea() { Area=Side*Side;} public: void GetBox(); void ShowBox(); }; void BOX::GetBox() { cin>>BoxNumber>>Side;	ExecArea(); } void BOX::ShowBox() { cout<<BoxNumber<<" "<<Side<<" "<<Area<<endl; }	1 marks for members. 1 marks for functions 1 marks for function correct definition
c) class BOX { int BoxNumber ; float Side ; float Area ; void ExecArea() { Area=Side*Side;} public: void GetBox(); void ShowBox(); }; void BOX::GetBox() { cin>>BoxNumber>>Side;	ExecArea(); } void BOX::ShowBox() { cout<<BoxNumber<<" "<<Side<<" "<<Area<<endl; }			
	d)(i) Multilevel Inheritance (ii) Enter2(), Display() of class Second Enter3(), Display() of class Third (iii) T.Second::Display(); (iv) First, Second, Third	1 marks for each.		

3. a)	<pre>void AddUp(int Arr[], int N) { for(int i=0; i<N; i++) { if(i%2==0) Arr[i]=Arr[i]+Arr[i+1]; else Arr[i]=Arr[i]+10; } }</pre>	1 marks for loop 1 marks for condition 1 marks for adding element & increment																																							
	<pre>b) void SUMMIDCOL(int MATRIX[][10],int N,int M) { int mid=M/2; int sum=0; for(int i=0; i<N; i++) { sum=sum+MATRIX[i][mid]; } cout<<" Sum of Middle Column"<<sum; }</pre>	½ marks for loop ½ marks for addition ½ marks for displaying the sum																																							
c) LOC(ARR[10][5]) 35000 = BaseAddress + W(I*C + J) 35000 = BaseAddress + 4(10*20 + 5) 35000 = BaseAddress + 4(205) 35000 = BaseAddress + 820 BaseAddress = 35000 - 820 = 34180 LOC(ARR[5][15])= BaseAddress + W(I*C + J) = 34180 + 4(5*20 + 15) = 34180 + 4(100 + 15) = 34180 + 4 x 115 = 34180 + 460 = 34640	OR Loc(ARR[I][J]) = Ref. Address + W ((I - LR)*C + (J - LC)) (where W=size of each element = 4 bytes, R=Number of Rows =15, C=Number of Columns=20 Reference Address= Address of given cell ARR[10][5]=35000 LR = Row value of given cell = 10 LC = Column value of given cell = 5 LOC(ARR[5][15]) = LOC(ARR[10][5]) + 4((5-10)*20 + (15-5)) LOC(ARR[5][15]) = 35000 + 4(-100 + 10) = 35000 -360	1 marks for formula+1 marks for correct steps+1 marks for correct address finding																																							
d) Ans : Infix to Postfix	<table border="1" data-bbox="694 1156 1157 1392"> <thead> <tr> <th>ELEMENT</th> <th>Stack</th> <th>POSTFIX</th> </tr> </thead> <tbody> <tr><td>X</td><td></td><td>X</td></tr> <tr><td>-</td><td>-</td><td>X</td></tr> <tr><td>(</td><td>-(</td><td>X</td></tr> <tr><td>Y</td><td>-(</td><td>XY</td></tr> <tr><td>+</td><td>-(+</td><td>XY</td></tr> <tr><td>Z</td><td>-(+</td><td>XYZ</td></tr> <tr><td>)</td><td>-</td><td>XYZ+</td></tr> <tr><td>/</td><td>-/</td><td>XYZ+</td></tr> <tr><td>U</td><td>-/</td><td>XYZ+U</td></tr> <tr><td>*</td><td>-*</td><td>XYZ+U/</td></tr> <tr><td>V</td><td>-*</td><td>XYZ+U/V</td></tr> <tr><td></td><td></td><td>XYZ+U/V*</td></tr> </tbody> </table>	ELEMENT	Stack	POSTFIX	X		X	-	-	X	(-(X	Y	-(XY	+	-(+	XY	Z	-(+	XYZ)	-	XYZ+	/	-/	XYZ+	U	-/	XYZ+U	*	-*	XYZ+U/	V	-*	XYZ+U/V			XYZ+U/V*	1 marks for correct operators & 1 marks for correct answer
ELEMENT	Stack	POSTFIX																																							
X		X																																							
-	-	X																																							
(-(X																																							
Y	-(XY																																							
+	-(+	XY																																							
Z	-(+	XYZ																																							
)	-	XYZ+																																							
/	-/	XYZ+																																							
U	-/	XYZ+U																																							
*	-*	XYZ+U/																																							
V	-*	XYZ+U/V																																							
		XYZ+U/V*																																							
e) void STACK::PUSHGIFT () { GIFT *T = new GIFT; cin>>T->GCODE; }	gets(T->GDESC); T->Link = TOP; TOP = T; }	Mark for new pde)+ Mark for ching)+ Mark for Link)																																							
4 a)	<pre>void PURETEXT () { char ch; ifstream F("MYNOTES.TXT"); while(F.get(ch)) { if(ch=='K') ch='C'; cout<<ch; } F.close(); //IGNORE }</pre>	1 Mark for opening MYNOTES.TXT (1 Mark for reading each character (1 Mark for displaying 'C' in place of 'K')																																							
	<pre>b) void COUNTPICS () { ifstream F; F.open("PHOTOS.DAT", ios::binary);</pre>	(½ Mark for opening PHOTOS.DAT +(½ Mark for reading records+) (½ Mark for comparing +																																							


```

int count=0;
PHOTOS obj;
while(F.read((char*)&obj,sizeof(obj)))
{
if(strcmp(obj.GETPTYPE(),"PORTRAIT")==0)
count++;
}
cout<<"Number of PORTRAIT photos :"<<count;
F.close(); //IGNORE
}

```

(½ Mark for displaying counter for matching records)

c) Client Number 8 of 200

1 marks

5 a) **DDL.** It provides statements for creation and deletion of the database.Exa : ALTER,DROP,CREATE
DML. It provides statements for manipulating the database. It includes commands to insert, delete and modify tuples in the database.

1 marks for each topic

b) (i) SELECT * FROM MEMBER ORDER BY ISSUEDATE DESC;
(ii) SELECT DCODE,DTITLE FROM DVD WHERE DTYPE='Folk';
(iii) SELECT COUNT(*),DTYPE FROM DVD GROUP BY DTYPE;
(iv) SELECT NAME, ISSUEDATE FROM MEMBER WHERE ISSUEDATE>='2017-01-01' AND ISSUEDATE<='2017-12-31';
OR
SELECT NAME, ISSUEDATE FROM MEMBER WHERE ISSUEDATE BETWEEN '2017-01-01' AND '2017-12-31';
OR
SELECT NAME, ISSUEDATE FROM MEMBER WHERE ISSUEDATE LIKE '2017%';
(v) MIN(ISSUEDATE)
2016-12-13
(vi) DISTINCT DTYPE
Folk
Classical
Rock
(vii) DCODE NAME DTITLE
R102 AGAM SINGH A day in life
F102 ARTH JOSEPH Universal Soldier
C101 NISHA HANS The Planets
(viii) DTITLE
A day in life

½ marks for select and
½ marks for putting correct clause.)for Ques. No :(i) to (iv)
½ marks for correct output Ques. No : (V) to (VIII)

6.a) Demorgan's Law Using Truth Table :

(i) $(A.B)' = A'+B'$
(ii) $(A+B)' = A'.B'$

Truth Table Verification:

(i)

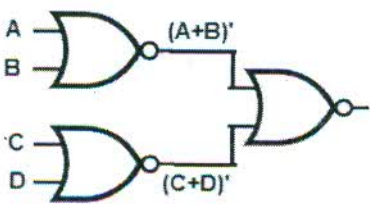
A	B	A.B	(A.B)'	A'	B'	A'+B'
0	0	0	1	1	1	1
0	1	0	1	1	0	1
1	0	0	1	0	1	1
1	1	1	0	0	0	0

(ii)

A	B	A+B	(A+B)'	A'	B'	A'.B'
0	0	0	1	1	1	1
0	1	1	0	1	0	0
1	0	1	0	0	1	0
1	1	1	0	0	0	0

1 marks for each type.

b) Logic Circuit Diagram for $(A+B).(C+D)$ Using only NOR Gates



2 marks

	c) $G(X,Y,Z) = (X+Y+Z).(X+Y+Z').(X+Y'+Z).(X'+Y'+Z)$ OR $G(X,Y,Z) = \prod (0,1,3,6)$		1 marks
	d)	<p>OR</p> <p>$E(U, V, Z, W) = UZ' + V'Z + U'ZW'$</p>	(½ Mark for drawing K-Map with correct variable names) (½ Mark for correctly plotting 1s in the given cells) (½ Mark each for 3 groupings) (½ Mark for writing final expression in reduced/minimal form)
7	a) Optical Fibre (i) Very Fast (ii) Expensive Fiber (iii) Immune to electromagnetic interference	Ethernet Cable - (i) Slower as compared to Optical Fiber (ii) Less Expensive as compared to Optical (iii) prone to electromagnetic interference	1 marks for each topic
	b) (i) Computer Virus OR (iv) Trojan Horse Justification: • Pen drive containing Computer Virus / Trojan Horse was used before the abnormal functioning started, which might have corrupted the system files. • Computer Virus/ Trojan Horse affects the system files and start abnormal functioning in the computer		(1 Mark for writing any of the options (i) OR (iv)) (1 Mark for writing any one correct justification)
	c) (i) Hacker A Hacker is a person who breaks into the network of an organization without any malicious intent.		(1 Mark for option) (1 Mark for justification)
	d)(i) Training Block - Because it has maximum number of computers.		(½ Mark for correct Block/location) (½ Mark for valid justification)
	(ii)	<p>CHENNAI Office</p>	(½ Mark for writing best wired medium) (½ Mark for drawing the layout correctly)
	(iii) Firewall - Placed with the server at the Training Block OR Any other valid device/software name		(½ Mark for device/software name correctly) (½ Mark for placement)
	iv) Device Name: WiFi Router OR WiMax OR RF Router OR Wireless Modem OR RF Transmitter Protocol : WAP OR 802.16 OR TCP/IP OR VOIP OR MACP OR 802.11		(1 Mark for either correct device name OR writing correct protocol)
