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केन्द्रीय विद्यालय संगठन, गुवाहाटी सम्भाग

I-PRE – BOARD EXAMINATION 2013-14(प्रौ-बोर्ड परीक्षा 2013-14)

Class: XII
Computer Science

Time: 3 Hrs.
Max. Marks: 70

Answer Key

- Q1 a) Typedef statement can create a new name to an existing data type, it actually does not create a new data type but redefines an existing type with a new name. e.g.
 Int x=10; 1
 Tpedef int numbers;
 Numbers y=x++;
- b) Dos.h, conio.h, math.h/cmath, stdio.h/cstdio ½
 each
- c) [1] 10 & 15 ½
 [2] 21 & 13 ½
 [1] 11 & 16 ½
 [2] 22 & 14 ½
- d) (c) In the following program after removing the error(s), if any. Underline each correction. ½

```

#include <oistream.h> => #include<iostream.h>/<iostream> ½
cin<<x; => cin>>x; ½
for (x=1;x<100; x+=2) => for (x=1;x<100; x+=2) ½
    if x%2=0 => if (x%2==0) ½
    
```
- e) All correct ½
 each
- f) iNTTaNEE(½ each 2 char) 2
- Q2 a) Game game1(3,2) or any correct example 1
 Game (game@ aa){score=aa.score;time=aa.time;} 1
- b) 1 mark each for correct diff. and example 2
- c) #include<iostream.h>
 #include<stdio.h>
 #include<conio.h> ½
 class Taxpayer
 {
 Int pan;
 char name[20];
 float taxable; ½
 float tax;
 public:
 void inputdata()
 {
 cout<<"\n Enter Personal Account Number : " ; cin>>pan;
 cout<<"\nEnter Name : "; gets(name); ½
 cout<<"\nEnter taxable income :"; cin>>taxable;
 }
 void displaydata()
 {
 cout<<"\n Panno\t Name \t\t Total Annual Taxable Income \t Tax \n";
 cout<<pan<<"\t"<<name<<"\t\t"<<taxable<<"\t\t"<<tax<<endl; 1
 }
 void computetax()
 { float ti=taxableinc;
 If(ti<200000) tax=0;
 else if (ti>=200000 && ti<=500000) tax=(ti-200000)*0.1;

```

else if (ti>500000 && ti<=1000000) tax=30000+(ti-500000)*0.2;
else
    tax=30000+100000+(ti-1000000)*0.3;
}
};
void main()
{
    taxpayer payee;
    payee.inputdata();
    payee.computetax();
    payee.displaydata();
}

```

d) For header files (½) and correct declaration of private members(½)

i) none 1

ii) void enter(), void show() 1

iii) member functions void enter(), void show(), void sales_entry(), void sales_details() , void status(), void register() 1

data members- voucher_no, sales_date(), salary, salesman_ no, salesman_name. 1

iv) 66 bytes.

Q3 a) void highlow(int A[],int size)

```

{
    int temp;
    for(int i=0;i<size;i++)
    {
        for(int j=i+1;j<size;j++)
        {
            if(A[i]>A[j])
            {
                temp=A[i];
                A[i]=A[j];
                A[j]=temp;
            }
        }
    }
}

```

cout<<"\nHighets value : "<< A[size-1];

cout<<"\nLowest value : "<<A[0];

}

Passing parameter and function heading 1

Logic for sorting 1

Printing highest and lowest value 1

Or 1

any other suitable method.

Q3 b) Base Address B = 1250

Element size W =4 bytes

Lr = 4, Lc = -1, I=6, j=2 1

no of rows(n) = Ur - Lr +1 = 7-4+1 = 4

no of columns(c) = Uc-Lc +1 = 3 - (-1) + 1 =5

Address of Roll[l,j] = B + W * (c * (I - Lr) + (J - Lc)) 1

= 1250 + 4 * (5 * (6- 4) + (2 - (-1)))

= 1250 + 4 * (10+3)

=1302 1

Q3 c) struct stack or it could be a class implementation. 1

```

{
    Int info;
    Char name[10];
    stack *next;
}top, ptr;

```

```

void pop()
{
  If(top==NULL)
  {
    cout<<"Underflow "; exit(0);
  }
  else
  {
    cout<<top->info;
    puts(top->name);
    ptr=top;
    top=top->next;
    ptr->next=NULL;
    delete ptr;
  }
}
Q3 d) void Qinsert( )
{
  THENODE *nptr;
  nptr=new THENODE;
  if(!nptr)
  {cout<<" Overflow, aborting!!!! \n";
  exit(0);
  }
  nptr->next=NULL;
  cout<<"\nEnter a name";
  gets(nptr->name);
  if(rear==NULL)
  {
    front=rear=nptr;
  }
  Else
  {
    rear->next=nptr;
    rear=nptr;
  }
}

```

Q3 e)

input	operation	stack	Intermediate o/p
4	push	4	
10	push	4,10	
5	push	4,10,5	
+	Pop twice evaluate and push back	4,15	10+5=15 push
*	Pop twice evaluate and push back	60	4*15=60 push
15	push	60,15	
3	Push	60,15,3	
/	Pop twice evaluate and push back	60,5	15/3=5 push
-	Pop twice evaluate and push back	55	60-5=55 push
None	pop	-	55 result

Q4 a)

```

int countlines( )
{
  ifstream fin("Movie.txt");
  Int count=0;

```

- ```

char ch;
while(!fin.eof())
{
 fin>>ch;
 if(ch=='\n')
 count++;
}
fin.close();
return (count);
}

```
- b) file.seekg((recno-1)\*sizeof(Item),ios::beg); file.seekp((recno-1)\*sizeof(Item), ios::beg); 1
- c) (i) void search(int bk\_no) ½
- ```

    { ifstream fin; int ind=0;
      fi.open("book.dat",ios::in | ios::binary);
      if ( !fin)
        { cout<<"Can't open file \n";
          exit(1);
        }
      While(fin)
        { Fin.read((char*) &bk,sizeof(bk));
          If(bk_no==bk.RBno())
            { cout<<"book no you searched found with these details"<<endl;
              bk.display();ind=1;
              break;}
        }
      if(ind==0)
        cout<<" book no you searched not found"<<endl;
    }
    fin.close();
} // end of function. or nay other correct ans.

```
- Q5 a) 1 mark each for correct ans. 2
- b) I. select name from person where dept="finance" and experience>10; 6
- II. select dept, avg(basic+allowance) as "average salary" from person, remuneration where dept="sales" and person.id=remuneration.id or select dept, avg(basic+allowance) as "average salary" from person, remuneration where person.id=remuneration.id group by dept having dept="sales"
- III. select min(allowance), max(allowance) from person p, remuneration r where p.id=r.id and p.sex="F";
- IV. select max(comm), from person p, remuneration r where p.id=r.id and p.sex="M";
- V. count(*)
4
- VI.
- | name | dept | basic |
|--------|-------|-------|
| amit | SALES | 12000 |
| nidesh | SALES | 12000 |
| anita | SALES | 42000 |
| sunil | SALES | 21700 |
- Q6 a) 1 mark each for correct ans. 2
- b) $U'V+UV'$ 2
- c) $(X+Y+Z)(X+Y+Z')(X+Y'+Z)(X'+Y'+Z)(X'+Y'+Z')$. 1

d)

AB\CD	C+D	C+D'	C'+D'	C'+D
A+B	0	0	1	0
A+B'	1	0	0	1
A'+B'	1	1	0	1
A'+B	0	1	0	0

3

$$(B+D)(A+B+C)(A+B'+D')(B'+C'+D')(A'+B+C')$$

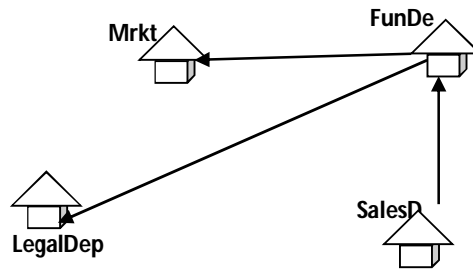
7. a) 1 mark for correct definition 1

b) switch provides a hardware interface for connecting a wired device to a network. additionally it can also be used for partitioning a network into smaller subnets. 1

c) message switching circuit switching 1
 in message switching technique the data or information being set over the network is stored in temporary buffers until a path to destination is freed. circuit switching works on the principle of telephone system, where a physical path is established before data can be sent.

d) XML- eXtensible Markup Language, GSM- Global system/standard of Mobiles Communication. 3G- 3rd Generation Mobile Communication, CDMA- Code Division Multiple Access. $\frac{1}{2}$ mark each. 2

e) a. 1



most suitable and economic diagram

b. sales department because it has max. no. of computers. 1

c. switch/switches of required no of ports will be used in each building 1

d. a broadband modem/router may be placed in sales dept so that all departments can access internet.

f) Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. 2