

**Second Pre Board Examination 2013 – 14****Time: 3:00 Hrs.****M. M. 100**

Section – A [READING] 20 Marks

Section – B [WRITING] 35 Marks

Section – C [LITERATURE] 45 Marks

SECTION-D NOVEL 15 Marks**Section – A [ READING ]**

Q 1 Read the passage given below and answer the questions that follow :-

1. When television became widespread after World War II, some people thought that television will replace reading. They believed that only a few people might still have any reason to read and that television would become the number one educational tool.
2. We know now that the prediction was incorrect. There has been no decline in most people's need to read. In fact surveys shows that more books than ever are being sold and the amount of time that the student spent on reading is greater than in the days before television. Unfortunately, however, many students are doing little or no voluntary reading. Most of the reading that they do is assigned by their teachers.
3. Just think about how much you read every day in order to complete your school work. How often can you finish an assignment or your homework without doing any reading? Is there any class in school that does not require you to do some reading? You have to read in home, class , lab, for different subjects and certainly in languages. There is no denying the fact that most academic and vocational courses rely heavily on text books.
4. Not too long ago, a group of teachers made a study of the students and learning problems. A curious fact came out of this study. The teachers discovered that the student who did poorly in subjects such as Maths or Art could still do very well in other subjects. But the students who did poorly in reading, almost always did poorly in all their other courses.
5. For a while the teachers who made the study were puzzled by this, but they soon had an answer to this puzzle. The teachers looked at the subjects that the students were failing in and discovered that even subjects like Maths and Science were based on reading.
6. The assignments required students to read long sets of directions and tests and problems in class involved story problems, that were explained in words and had to be read and understood before they could be solved. Your success or failure in these classes will depend on your ability to read the required material
7. Success in school courses still depends on an ability to read and those students who don't read well enough to understand subjects, are in trouble. You need more and more information and most of this information comes from the printed material you have to read.
8. You are moving into a world where every day more and more technical reading is required. There are written instructions for using appliances, food preparations, traffic signs, travel directions and safety instructions, all requiring the ability to read. People in modern society read hundreds and even thousands of words everyday.
9. Also your ability to get and keep a job is directly related to your ability to read. Even the simplest jobs require some reading ability, and many people advance to more important and better paying jobs by getting additional knowledge and skills through reading. The more specialized the job, the greater the need to read confidently, quickly and efficiently.
10. Doctors read professional journals so that they can use the latest medical knowledge while pharmacists have to read the prescriptions the doctors write. Lawyers spend their days reading briefs. The number of semi-skilled and professional occupations that require high reading ability is increasing rapidly. Today a person who cannot read and understand is almost unemployable.

Q.1.1 (a) Answer the following questions briefly:

2×5=10

- (i) What predictions concerning television is referred and is incorrect?
- (ii) What were the findings of the teachers regarding the poor performance of the students?
- (iii) What do you understand from the term 'technical reading'?
- (iv) Success or failure in class totally depends on reading. Why?
- (v) Why professionals today rely on reading?

(b) Find words in the above passage with synonyms:(i) scholastic (para 3) (ii) anecdote (para 6)

Q.2 Read the passage given below and answer the questions that follow:

The kingdom of books is as vast as the universe, for there is no corner of it which they have left unexplored. There is no dearth of books on any topic, be it as simple as the composition of sodium nitrate or as intricate as the mechanism of a spacecraft towards Mars. We make use of the books for the dissemination of useful ideas, for popularising the fruits of our research in various fields of knowledge, and for spreading our progressive views on matters which are of vital concern to our fellow beings. In fact, no single product of human labour has been as helpful to the advancement of civilisation as books which are written in all languages of the world and which are decoratively placed in bookshelves in our homes and tastefully displayed in bookstalls and libraries. If to Keats, works of ancient poets like Holmes were realms of gold from which he derived much joy as well as inspiration, to the modern lover of books, the labours of all geniuses, including those of Keats, are mines of inestimable intellectual wealth which he goes on exploring for the sake of his mental and spiritual advancement.

There was a time five centuries back when books, as we know them today, did not exist, and when there were few people who could read things written on stuff that certainly was not paper. At that time our ancestors used rocks, pillars and parchment with a view to recording and perpetuating their most important thoughts and achievements in the language they then understood. Now a days, book producing machinery gives to the work of every great scientific thinker, poet or philosopher, the character of permanence, reproduces in attractive forms old or rare manuscripts and caters to the differing tastes of millions of people for whom book reading is an extremely pleasant and intellectual exercise. Moreover, the high percentage of literacy, the growth of libraries in towns and villages and the tendency of the intellectuals to have their own private collection of useful books, have given birth to a number of big publishing houses with branches in many parts of the world and publications numbering thousands.

Q2.1 On the basis of your reading of the above passage make notes on it in points only, using abbreviations wherever necessary. Supply a suitable title. 5

Q2.2 Make a summary of the above passage. 3

### **SECTION –B WRITING**

Q.3 You are Akshat/Akshita, Manager of Co-operative Bank, Ajmer. The Bank requires experienced Executives for different sections. Draft an advertisement mentioning relevant information. (50 words) 5

OR

As the incharge of the Health Club of the New Look School, Jaipur, draft an invitation for the inauguration of the club and the canteen in your school.

Q.4 Students of the Gandhi Public School, New Delhi, put up a cultural show to aware the children about India's rich heritage and culture on the eve of Annual Day of the school. Write a report for the school magazine. You are Rashmi/Sanjeev, the cultural Incharge. (150 words) 10

OR

A programme was organized by the students of the various school in the city to aware the people about education, health, environment, harmony. As a President of the Inter School Council describe the events.

Q.5 The casual attitude of the drivers of the local conveyance and school buses has claimed many lives and injuries to the animals. Write a letter to the editor of 'The Daily News' highlighting the matter and suggest measures to check such incidents. 10

OR

You are the Lab Incharge of the Shantiniketan School, Banglore. Write a letter to the Sales Manager of the Bharat Laboratories, Delhi, placing orders for various instruments, equipments and items for the Science and Computer Lab. in the school.

Q.6 Write an article on the topic ' Illiteracy is the cause of all evils' for your school magazine. 10

OR

Write a speech on the topic ' Entrance Exams- A Stress' for admission/career, on the minds of the students.

**SECTION-C LITERATURE**

Q.7 Read the extract given below and answer the questions that follow:-

A thing of beauty is a joy forever  
Its loveliness increases, it will never  
Pass into nothingness, but will keep  
A bower quiet for us, and a sleep

- a) Explain 'its loveliness increases'. 1
- b) What does the poet mean by 'pass into nothingness'? 1
- c) Why does the poet say it 'a bower quiet for us'? 1
- d) How does a thing of beauty brings joy? 1

OR

Break O break till they break the town  
And show the children to green fields, and make their world  
Run azure on gold sands, and let their tongues  
Run naked into books the white and green leaves open  
History theirs whose language is the sun.

- a) To whom does 'they' refer? 1
- b) What would they bread? 1
- c) Explain 'run azure on gold sands'. 1
- d) What should the children enjoy? 1

Q.8 Answer any two of the following question in 30-40 words each: 2×2=4

- (i) What sadness the poet, Pablo Neruda refers to in the poem?
- (ii) What does Aunt Jennifer's creation of the tigers symbolize?
- (iii) Keats feels that nature binds us on the earth. Justify.

Q.9 Answer any six of the following in 30-40 words each: 2×6=12

- (i) Franz thinks," Will they make them sing in German, even the pigeons?" Comment.
- (ii) What advice did Annan offer Bama?
- (iii) Does Derry overcome the complex regarding his burnt face? How ?
- (iv) What were the reactions of Dr. Sadao and Hana for the POW?
- (v) Why did Roger Skunk's mommy go to the wizard and what was the result?
- (vi) What made the peddler to come out of the rattrap?
- (vii) Describe the efforts made by Gandhiji for the people of Champaran?

Q10 Answer the following questions in 100-125 words: 5

Describe the plight of the street children forced into labour early in life and denied the opportunity of schooling, justifying the title 'Lost Spring'.

OR

The story 'The Tiger King' is a satire on the conceit of those in power. Comment.

Q.11 It is rightly said that justice delayed is justice denied. Substantiate the aphorism in the light of the following lines: 5

The government was baffled. The prosecutor requested the judge to postpone the trial. Apparently the authorities wished to consult their superiors. Gandhiji protested against the delay.

**SECTION-D NOVEL**

Q.12 Dr. Watson observed a number of happenings taking place on the moor and wrote in his report. What were his observations. 7

Q13 Explain the part played by Sherlock Holmes pointing out the incidents in saving the life of Sir Henry Baskerville. 8

**Second Pre Board Examination 2013 – 14****Time: 3:00 Hrs.****M. M. 70**

Q.1 (a) what is difference between actual & formal parameter ? Give an example in c++ illustrate both type of parameter. 2

(b) observe the following c++ code and write name (s) of header file(s) 1

```
void main( )
{
    int number;
    cin>>number;
    if (abc(number)== number)
        cout<<"positive:"<<endl;
}
```

(c) Rewrite the following program after removing the syntactical error .underline each correction . 2

```
#include<iostream.h>
struct pixels
{
    int color,style; }
void showpoint(pixels p)
{
    cout<<p.color.p style<<endl; };
void main ( )
{
    pixels p1=(5,3);
    showpoint(p1);
    pixels p2=p1;
    color.p1+=2;
    showpoint(p2);
}
```

(d) Observe the following c++ code carefully & obtain the output which will appear After execution . 2

```
void main ( )
{
    char *string="SHAKTI";
    int *POINT, value [ ]={ 10,15,70,19};
    POINT=value;
    cout<<*POINT<<string<<endl;
    string++ ;
    POINT++;
    Cout<<*POINT<<string<<endl;
}
```

(e) Find the output of following program :- 3

```
void changeContent( int arr[], int count)
{
    for (int c=1; c<count;c++)
        arr[c-1]+= arr[c];
}

Void main ( )
{
    Int a[ ]={3,4,5};
    B [ ]={ 10,20,30,40,50},
    C[ ]={900,1200};
    ChangeContent(A,3);
    ChangeContent(B,4);
}
```

```

ChangeContent(C,2);
For(int L=0;L<3;L++)
Cout<<A[L]<<"#";
Cout<<endl;
For(int L=0;L<4;L++)
Cout<<B[L]<<"#";
Cout<<endl;
For(int L=0;L<2;L++)
Cout<<C[L]<<"#";
Cout<<endl; }

```

(f) Find out the output :-

2

```
#include<iostream.h>
```

```
Void main( )
```

```
{   Int a=10,b=20;
    For(int j=1;j<=2;j++)
    {
        Cout<<"[1]"<<a++<<"&"<<b-5<<endl;
        Cout<<"[2]"<<++b<<"&"<<a+2<<endl;
    }
}
```

Q.2 (a) what do you understand by polymorphism ?give the suitable example for the same.

2

(b) answer the question (1) & (2) after going through the following class.

2

```
Class Race
```

```
{   Int carno,track;
    public:
    Race( );           //fun1
    Race(int c);      //fun2
    Race(race & c);   //fun3
    Void register( ); //fun4
    Void drive( );    //fun5
};
```

```
Void main( )
```

```
{ Race R; }
```

(i) out of the following which of the option is correct for calling fun 2 (a) Race T(30); (b) Race U(R);

(ii) which oop feature is illustrated by fun1,fun2 & fun3 combined together?

(c) define a class tourist in c++ with the following specification :-

4

Data member:-

- \* carno - to store car no.
- \* origin- to store place name of origin
- \* destination- to store place name of detination
- \* type - to store bus type such as 'E' for Economy
- \* distance- to store distance in K.M.
- \* charge- to store the car fare

Member function:-

- A constructor function to initiate type as 'E' and freight as 250
- A Function CalcCharge( )to calculate charge as per the following criteria:-

Type	Fare
'E'	16*distance
'A'	22*distance
'L'	30*distance
- A function enter( ) to allow user to enter values for carno,origin,destination,type & distance .also this function should call CalcCharge( ) to calculate fare.
- A function show( ) to display the content of all the data on screen.

(d) consider the following code & answer the question from (1) to (4).

4

```
Class student
{
    int class ,Rno;
    Char section ;
    protected:
    char sname[20];
    public:
    student( )
    void stentry( );
    void display( );
};
class score :private student
{
    float marks[5];
    protected:
    Char grade[5];
    Public:
    Score( );
    Void sdisplay( );
    Void sentry( );
};
class report:public score
{
    float Total,Avg;
    public:
    char overallgrade,remarks[20];
    Report( );
    void rvaluate( );
    void rprint( );
};
```

- (1) Which type of inheritance is shown in the above example?
- (2) Write the names of those data member which can be directly accessed from the object of class report?
- (3) Write the names of those mem. Function which can be directly accessed from the obj. of class report?
- (4) Write the names of those data members which can be directly accessed from the sentry( ) function of class score?

Q.3 (a) An array p[15][10] is stored along the column in the memory with each element requiring 4 bytes of storage .if the base address of array p is 14000, find out the location of p[8][5]. 3  
(b) write a user defined function DispNTen(int L[ ][4],int R,int C) inC++ to find & display all the member which are not divisible by 10 ,for example if the content of array is :-

20	17	30
12	19	10

The output should be 17,12,19. 3

(c) evaluate the following postfix expression. Show the status of stack after execution of each operation:- 60,6,/,5,2,\*,5,-,+ 3

(d) write a function Qinsert( ) in c++ to perform insert operation on a linked queue. 3

(e)write code for a function void ChangeOver(int P[ ],int N) in c++ which repositions all the element of the array by shifting each of them to the next position and by shifting the last element to the first position . 2

For exp.: if the content of the array is:-

0	1	2	3	4
12	15	17	13	21

The changed content will be:-

0	1	2	3	4
21	12	15	17	13

- Q.4 (a) write a function in c++ to write in a binary file. 3  
 (b) Write a function in a C++ to count the number of lowercase alphabets present in a text file "BOOK.txt". 3

- Q.5 (a) Explain the concept of candidate keys with the help of an appropriate example. 1  
 (b) Write SQL queries for (a) to (d) & output for (1) to (3) on the basis of tables products & suppliers. 7

**PRODUCT**

PID	Pname	QTY	Price	Compny	Supcode
101	CAMERA	120	12000	RENIX	S01
102	IPAD 14X	100	22000	DIGIPOP	S02
104	PEN DRIVE	500	1100	HP	S01
106	LED SCREEN	70	28000	SONY	S02
105	GPS SYSTEM	60	12000	MOVEON	S03

**SUPPLIERS**

SUPCODE	SNAME	CITY
S01	GET INC	KOLKATA
S03	MARKET CORP	DELHI
S02	DIGI GROUP	CHENNAI

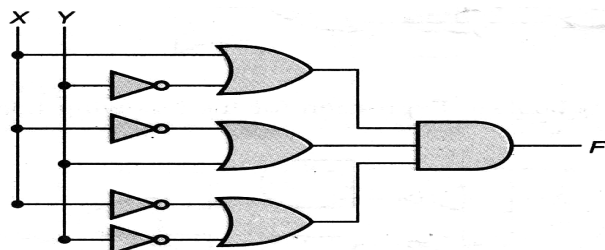
- (A) To display product name & price of all those products ,whose price is in the range of 10,000 & 15000( both values inclusive)  
 (B) To display the no. of products which are supplied by each supplier:- i.e the expected output should be:-  
 S01 2  
 S02 2  
 S03 1  
 (c ) To display the name of those suppliers who are either from DELHI or from CHANNAI.  
 (d) To display the name of companies and the name of products in descending order of company name.  
 (1) select MAX(PRICE) ,MIN(PRICE) from PRODUCT ;  
 (2) select pname ,sname from PRODUCTS P , SUPPLIERS S where P.SUPCODE=S.SUPCODE AND QTY >100;  
 (3) select PRICE \* QTY AMOUNT from PRODUCTS WHERE PID=104;

- Q.6 (a) state & prove associative law algebraically. 2  
 (b) Given the following truth table ,derive POS & SOP form of Boolean expression. 2

A	B	C	F(A B C)
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	0
1	1	1	0

- (c ) Obtain a simplified form for following using K-MAP 3  
 $F(A,B,C,D)=\sum(0,3,5,6,7,11,12,15)$

- (d) Interpret the following logic circuit. 1

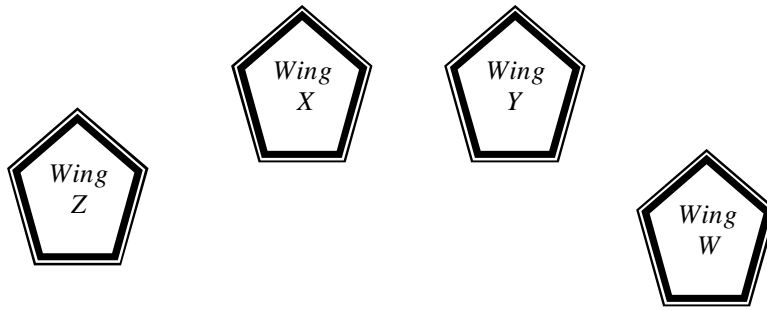


Q.7 (a) define circuit switching .

2

(b) Ravya industries has set up its new center at kaka nagar for its office and web based activities .the company compound has 4 building as shown :-

4



Center to center distance between building:-

Z to X	50m.
X to Y	60m
Y to W	25m
W to Z	170m
Z to Y	125m
X to W	90m

No. of computers in each of building:-

X	150
Y	15
Z	15
W	25

(A) suggest a cable layout of connection between building.

(B) Suggest the most suitable place to house the server of this organization.

(C) Suggest the place of following device:- (1) modem (2) switch

(D) The organization is planning to link its sale counter in various parts of same city which type of network out of LAN, MAN & WAN will be formed?

(c) Define the terms :- (1) firewall (2) optical fibre

2

(d) What is difference between FTP & HTTP ?

2

OR

What is difference between hackers & crackers?

**\*\* ALL THE BEST \*\***





## Second Pre Board Examination 2013 – 14

M. M. 100

Time: 3:00 Hrs.

General Instruction :-

Section – A each Question carry **One Mark**.Section – B each Question carry **Four Marks**.Section – C each Question carry **Six Marks**.**SECTION – A**

Q.1 If the binary operation  $*$  defined on  $Q$ , is defined as  $a * b = 2a + b - ab$ , for all  $a, b \in Q$ , find the value of  $3 * 4$ .

Q.2 If  $\tan^{-1} x + \tan^{-1} y = \frac{\pi}{4}$ , find the value of  $x + y + xy$ .

Q.3 If  $\begin{bmatrix} 7 & x^2 \\ y^3 & 18 \end{bmatrix} = \begin{bmatrix} 7 & 16 \\ -64 & 18 \end{bmatrix}$  find  $x$  and  $y$ .

Q.4 If  $A$  is a skew symmetric matrix of order  $3 \times 3$ , what is the value of  $|A|$ ?

Q.5 Using properties of determinants, Evaluate  $\begin{vmatrix} 43 & 3 & 6 \\ 35 & 21 & 4 \\ 17 & 9 & 2 \end{vmatrix}$ .

Q.6 Evaluate :  $\int \sqrt{1 + \sin x} \, dx$ .

Q.7 Evaluate :  $\int \frac{1 \, dx}{\sqrt{4x^2 - 9}}$ .

Q.8 Find the value of  $p$  if  $(2\hat{i} + 6\hat{j} + 27\hat{k}) \times (\hat{i} + 3\hat{j} + p\hat{k}) = \vec{0}$ .

Q.9 If  $|\vec{a}| = 5, |\vec{b}| = 13$  and  $|\vec{a} \times \vec{b}| = 25$ , find  $\vec{a} \cdot \vec{b}$ .

Q.10 Find the distance between the planes  $2x - 3y + 4z - 8 = 0$  and  $4x - 6y + 8z + 11 = 0$ .

**SECTION – B**

Q.11 Prove that the function  $f : R \rightarrow R$  defined by  $f(x) = \cos x, x \in R$  is neither one-one nor onto.

Q.12 Prove that  $\sin^{-1}\left(\frac{12}{13}\right) + \cos^{-1}\left(\frac{4}{5}\right) + \tan^{-1}\left(\frac{63}{16}\right) = \pi$ .

OR

Q.28 A man own a field of area  $1000\text{m}^2$ . He wants to plant fruit trees in it. He has a sum of Rs. 1400 to purchase young trees. He has the choice of two type of trees. Type A requires  $10\text{m}^2$  of ground per tree and costs Rs. 20 per tree and type B requires  $20\text{m}^2$  of ground per tree and costs Rs. 25 per tree. When fully grown, type A produces an average of 20 kg of fruit which can be sold at a profit of Rs. 2 per kg. and type B produces an average of 40 kg. fruits which can be sold at a profit of Rs. 1.50 per kg. How many trees of each type should be planted to achieve a maximum profit when the trees are fully grown? What is that maximum profit?

Value Based Question :- The farmer's wife solves the above problem using LPP. What values she shows towards the society?

Q.29 A pair of dice is thrown 4 times. If getting a doublet is considered a success, find the mean and variance of the number of successes by making the probability distribution table taking random variable 'X' as the No. of successes.

Value Based Problem :- Supposing that you took part in an "AIDS Awareness programme" Write the slogan for this programme.

\*Value Based Problem are of 1 Mark each.

\*\*\*\*\*

Solve for  $x$ :  $\cos^{-1}\left(\frac{x^2-1}{x^2+1}\right) + \tan^{-1}\left(\frac{2x}{x^2-1}\right) = \frac{2\pi}{3}$ .

Q.13 Using properties of determinants, evaluate :

$$\begin{vmatrix} x^2+1 & xy & zx \\ xy & y^2+1 & yz \\ zx & yz & z^2+1 \end{vmatrix} = 1+x^2+y^2+z^2.$$

Q.14 If  $e^{y-x} = xy$  then show that  $\frac{dy}{dx} = \frac{2-\log x}{(1-\log x)^2}$ .

Q.15 If  $\sin^{-1} y = 2\log(x+1)$ , then show that

$$(x+1)^2 y_2 + (x+1)y_1 + 4y = 0.$$

OR

If  $x\sqrt{1+y} + y\sqrt{1+x} = 0$  then show that  $\frac{dy}{dx} = \frac{1}{(1+x)^2}$ .

Q.16 Prove that the curves  $x = y^2$  and  $xy = k$  cut each other at right angles if  $8k^2 = 1$ .

Q.17 Evaluate :  $\int \frac{\cos x dx}{(2+\sin x)(3+4\sin x)}$ .

Q.18 Solve differential equation  $x \cos x \frac{dy}{dx} + y(x \sin x + \cos x) = 1$ .

OR

Solve differential equation :  $2ye^{\frac{x}{y}} dx + (y - e^{\frac{x}{y}} \cdot 2x) dy = 0$ .

Q.19 Solve differential equation :  $(y^3 - 2yx^2) dx + (2xy^2 - x^3) dy = 0$ .

Q.20 Three vectors  $\vec{a}, \vec{b}$  and  $\vec{c}$  are such that  $\vec{a} + \vec{b} + \vec{c} = 0$  then evaluate  $\vec{a} \cdot \vec{b} + \vec{b} \cdot \vec{c} + \vec{c} \cdot \vec{a}$  if  $|\vec{a}| = 1$ ,  $|\vec{b}| = 4$  and  $|\vec{c}| = 2$ .

Q.21 Find the equation of plane passing through the points  $(2, -3, 1)$  and  $(5, 2, -1)$  and perpendicular to plane  $x - 4y + 5z + 2 = 0$ .

OR

Find the equations of the line passing through the point  $(2, 1, 3)$  and

perpendicular to the lines  $\frac{x-1}{1} = \frac{y-2}{2} = \frac{z-3}{3}$  and  $\frac{x}{-3} = \frac{y}{2} = \frac{z}{5}$ .

Q.22 In bag A there are 5 white and 8 red balls; in bag B, 7 white and 6 red balls and in bag C, 6 white and 5 red balls. One ball is taken out at random from each bag. Find the probability that all the three balls are of the same colour. Value Based Question : Ravi always helped his friend Kalu by giving his notebook to copy homework. Is Ravi really helping Kalu, What is your opinion.

### SECTION - C

Q.23 Using matrix method, solve that following equations for  $x, y$  and  $z$ .

(Here  $x \neq 0, y \neq 0, z \neq 0$ )  $\frac{2}{x} + \frac{3}{y} - \frac{4}{z} = 1, \frac{3}{x} + \frac{5}{y} + \frac{8}{z} = \frac{31}{6}$  and

$$\frac{6}{x} + \frac{2}{y} + \frac{1}{z} = \frac{47}{12}.$$

Q.24 Prove that the volume of largest cone that can be inscribed in a sphere of radius R, is  $\frac{8}{27}$  of the volume of the sphere.

OR

A wire of length 28m is cut into two pieces. One of the two pieces is to be made into a square and the other into a circle. What should be the length of the two pieces so that the combined area of both of these is minimum.

Q.25 Integrate :  $\int \sqrt{\tan x} dx$ .

OR

Integrate  $\int_1^3 (2x^2 + 5x) dx$  as limit of a sum.

Q.26 Using integration, find the area lying above  $x$  axis and included between the circle  $x^2 + y^2 = 8x$  and the parabola  $y^2 = 4x$ .

Q.27 From the point  $p(1, 2, 4)$  a perpendicular is drawn on the plane  $2x + y - 2z + 3 = 0$ . Find its equation and the length. Also find the coordinates of the foot of the perpendicular.

## Second Pre Board Examination 2013 – 14

**Time: 3:00 Hrs.**

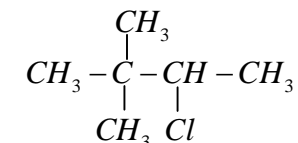
Question No. 1 to 8 carry One Mark.

Question No. 26 carry Four Marks.

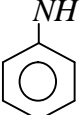
Question No. 17 to 25 carry Three Marks.

Question No. 27 to 29 carry Five Marks.

- Q.1 Of physisorption or chemisorption : which has a higher enthalpy of adsorption?
- Q.2 Name the method used for refining of copper?
- Q.3 Name two poisonous gases which can be prepared from  $\text{Cl}_2$  gas.
- Q.4 IUPAC name for :-



- Q.5 Rearrange in increasing order of B.P.?  
 $\text{CH}_3\text{CHO}$ ,  $\text{CH}_3\text{CH}_2\text{OH}$ ,  $\text{CH}_3 - \text{CH}_2 - \text{CH}_3$
- Q.6 Write the structure of  $\eta$ -methyl ethanamine.
- Q.7 What are the products of hydrolysis of sucrose?
- Q.8 Is  $\left[ \text{CH}_2 - \underset{\text{Cl}}{\text{C}} \text{H} \right]_n$  & homopolymer or a copolymer?
- Q.9 Account for the following :-  
(i) Schottky defects lower the density.  
(ii) Conductivity of silicon increases on doping it with phosphorus.
- Q.10 What do you understand by the 'order of reaction' Identify the reaction order form each of the following units of reaction rate constant?  
(i)  $\text{L}^{-1} \text{mol S}^{-1}$  (ii)  $\text{L mol}^{-1} \text{S}^{-1}$
- Q.11 The standard electrode potential ( $E^\circ$ ) for Daniel cell is + (1.1V). Calculate the  $\Delta G^0$  for the reaction  
 $\text{Zn}(s) + \text{Cu}^{2+}(aq.) \rightarrow \text{Zn}^{2+}(aq.) + \text{Cu}(s)$  ( $1F = 96500\text{Cmol}^{-1}$ ).

- Q.12 What is meant by Co-agulation of colloidal solution. Describe any three methods by which Co-agulation of lyophobic solutions can be carried out.
- Q.13 (i) Name the method used for removing gongue from sulphide ores.  
(ii) How is wrought iron different from steel?
- Q.14 How are inter halogen compounds formed? What general composition can be assigned to them?
- Q.15 Complete the following chemical reaction –  
(i)  $Cr_2O_7^{2-} + H^+ + I^- \rightarrow ?$  (ii)  $MnO_4^- + NO_2^- + H^+ \rightarrow ?$
- Q.16 What is meant by (i) peptidic linkage (ii) biocatalysts?
- Q.17 Write any two reactions of Glucose which cannot be explained by the open chain structure of glucose molecules.
- Q.18 Draw the structure of the monomer for – (i) Nylon-6 (ii) Gluaptal
- Q.19 Tungsten crystallizes in body central cubic unit cell. If the edge of the unit cell is 316.5 pm, what is the radius of tungsten atom?
- Q.20 What are the characteristics of the following colloids? Give one example.  
(i) Multimolecular colloids (ii) Lyophobic sols  
(iii) Emulsions
- Q.21 Give reason for :-  
(i) Where R is an alkyl group  $R_3P=O$  exists but  $R_3N=O$  does not  
(ii)  $PbCl_4$  is more covalent than  $PbCl_2$   
(iii) At room temperature,  $N_2$  is much less reactive.
- Q.22 For the complex  $[NiCl_4]^{2-}$  :-  
Write (i) IUPAC (ii) Hybridisation type  
(iii) Shape of the complex
- Q.23 Give reason for :-  
(i) Ethyl iodide undergoes  $SN^2$  reaction faster than ethyl bromide.  
(ii)  $(\pm)$  2-butanol is optically inactive  
(iii) C-X bond length in halo benzene is smaller than C-X bond length in  $CH_3-X$
- Q.24 Complete the following reaction –  
(i)  $CH_3-CH_2NH_2 + CHCl_3 + alcKOH \rightleftharpoons ?$   
(ii)  $C_6H_5N_2^+Cl^- \xrightarrow{H_2O}$  room temperature  
(iii)  +  $HCl (aq.) \rightarrow ?$

- Q.25 (i) What class of drug is ranitidine?  
(ii) If water contains dissolved  $Ca^{2+}$  ions from soaps & synthetic detergent which will you use for cleaning clothes?  
(iii) Which of the following is antiseptic .2% phenol, 1% phenol
- Q.26 Calculate the emf of the following cell at 25°C.  
 $Ag | Ag^+ (10^{-3} M) || Cu^{2+} (10^{-1} M) | Cu(s)$  Given  $E^\circ_{cell} = +.46V$   
 $\log 10^7 = \eta$
- Q.27 State Raoult's law for a solution containing volatile components. How does Raoult's law become a special case of Henry's law?  
OR  
Define following terms :  
(i) Ideal solution (ii) Azeotropes (iii) Osmotic pressure
- Q.28 Give reason for :-  
(i)  $Mn^{3+}$  is a good oxidising agent  
(ii)  $E^\circ M^{2+} / M$  values are not regular for first row T.S. metals.  
OR  
(i) Name the one which shows only +3 O.S. in f block series.  
(ii) Name the elements which show maximum No. of O.S. among 1<sup>st</sup> series.  
(iii) What is lanthanoid contraction.
- Q.29 How will you convert the following :-  
(i) Propanone to propan-2-ol  
(ii) Ethanol to 2-hydroxypropanoic acid  
(iii) Toluene to benzoic acid  
OR  
Give simple chemical test to distinguish between –  
(i) Pentan-2-one and pentan-3-one  
(ii) Ethanal & propanal

**\*\*ALL THE BEST\*\***

Q.32 Calculate Gross National Product at market price and Personal disposable income from the following data :

	( ₹ Crores)
(i) Subsidy	20
(ii) Net factor income from abroad	(-60)
(iii) Consumption of fixed capital	50
(iv) Personal tax	110
(v) Savings of private corporation	40
(vi) Dividend	20
(vii) Indirect tax	100
(viii) Corporation tax	90
(ix) Net national disposable income	1,000
(x) National debt interest	30
(xi) Net current transfers from abroad	20
(xii) Current transfers from Government	50
(xiii) Miscellaneous receipts of the Government administrative departments	20
(xiv) Private Income	700
(xv) Private final consumption expenditure	380

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Code. No. 12/Economics/NLCS/80

## Second Pre Board Examination 2013 – 14

Time: 3:00 Hrs.

M. M. 100

### General instructions:

1. All questions in both the sections are compulsory. Marks for questions are indicated against each.
2. Questions 1 -5 and 17-21 are very short answer questions carrying 1 mark. They are to be answered in one sentence each.
3. Questions 6-10 and 22-26 are short answer questions carrying 3 marks each. Answers to them should not normally exceed 60 words each.
4. Questions 11-13 and 27-29 are also short answer questions of 4 marks each. Answers to them should not normally exceed 70 words each.
5. Questions 14- 16 and 30-32 are long answer questions of 6 marks each. Answers to them should not normally exceed 100 words each.

### SECTION – A

- Q.1 What causes an upward movement along a demand curve of a commodity?
- Q.2 What is the price elasticity of supply of a commodity whose straight line supply curve passes through the origin forming an angle of 75°?
- Q.3 What change will take place in marginal product, when total product increases at a diminishing rate?
- Q.4 Give the meaning of marginal cost?
- Q.5 Give the meaning of oligopoly?
- Q.6 Explain the inverse relationship between the price of a commodity and its demand?
- Q.7 State “law of supply”. What is meant by the assumption ‘other things remaining the same on which law is based’?
- Q.8 The price elasticity of supply of good X is half the price elasticity of supply of good Y. A 10% rise in the price of good Y results in a rise in its supply from 400 units to 520 units. Calculate the percentage change in quantity supplied of good X when its price falls from ₹ 10 to ₹ 8 per unit.
- Q.9 State the distinction between explicit cost and implicit costs. Give an example of each.

Q.10 Explain the implication of product differentiation feature of monopolistic competition.

OR

Explain the implication of 'homogenous product feature of perfect competition.

Q.11 Explain the effect of a rise in the prices of 'related goods' on the demand for a good X.

Q.12 Distinguish between :-  $2+2=4$

(i) Positive and normative economic perspectives is economics.

(ii) Microeconomics and Macroeconomics.

Q.13 The diagram shows AE is the demand curve of a commodity.

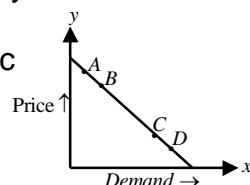
On the basis of this diagram, state whether the following statements are true or false. Give reasons for your answer.

(i) Demand at point B is price inelastic.

(ii) Demand at point C is more price elastic than at point B.

(iii) Demand at point C is price elastic.

(iv) Price elasticity of demand at point D.



Q.14 Explain the likely behaviour of total product & marginal product when for increasing production only one input is increased while all other inputs are kept constant.

Q.15 There is a simultaneous 'decrease' in demand & supply of a commodity. When will it result in :

(i) No change in equilibrium price.

(ii) A fall in equilibrium price. Use diagrams.

Q.16 For a consumer to be in equilibrium why must marginal rate of substitution be equal to the ratio of price of the two goods?

### SECTION - B

Q.17 Give the meaning of involuntary unemployment?

Q.18 What is meant by statutory liquidity Ratio?

Q.19 How is primary deficit calculated?

Q.20 What is meant by balance of trade?

Q.21 State two sources of supply of foreign currency?

Q.22 Can an economy be in equilibrium when there is unemployment in the economy. Explain.

Q.23 In an economy income increases by 10,000 as a result of a rise in investment expenditures by 1,000. Calculate.

(i) Investment Multiplier (ii) MPC

Q.24 How does money solve the problem of double coincidence of wants?

Q.25 How can budgetary policy be used for reducing inequalities in income and wealth?

Q.26 Calculate gross fixed capital formation from the following data :-

(i) Private final consumption expenditure 1,000

(ii) Government final consumption expenditure 500

(iii) Net exports (-) 50

(iv) Net factor income from abroad 20

(v) Gross domestic product at market price 2500

(vi) Opening stock 300

(vii) Closing stock 200

Q.27 What are the implications of a large revenue deficit? Give two measures to reduce this deficit.

Q.28 Explain the function of a central bank as a banker to the government?

Q.29 Mention the items included in the current account of the balance of payments. What does a deficit in current account indicate?

Q.30 State that whether the following statements are true or false. Give reasons for your answer :

(i) Capital formation is a flow.

(ii) Bread is always a consumer good.

(iii) Nominal GDP can never be less than Real GDP.

(iv) Gross domestic capital formation is always greater than gross fixed capital formation.

Q.31 Given below is the consumption function in an economy :  $C = 100 + 0.5 Y$  With the help of a numerical example show that in this economy as income increases APC will decrease.

OR

The savings function of an economy is  $S = -200 + 0.25Y$ . The economy is in equilibrium when income is equal to 2,000.

Calculate :

(i) Investment expenditure at equilibrium level of income.

(ii) Autonomous consumption

(iii) Investment multiplier

**Code. No. 12/Accountancy/NLCS/80**

**Second Pre Board Examination 2013 – 14**

**Time: 3:00 Hrs.**

**M. M. 80**

**PART - A**

- Q.1 If the partnership agreement specifies the distribution of profit to partners but is silent as to the distribution of a loss, what is generally done with a loss? 1
- Q.2 Name two different ways in which a partner can be retired from a partnership? 1
- Q.3 Under dissolution of partnership, in which situation might a partner have to contribute more cash to partnership? 1
- Q.4 Give two circumstances which sacrificing ratio may be applied. 1
- Q.5 What are preliminary expenses? 1
- Q.6 What maximum permissible discount can be allowed on the reissue of the forfeited shares which are originally issued at discount? 1
- Q.7 How do zero coupon rate debentures protect the interest of investors? 1
- Q.8 X, Y and Z are partners sharing profits and losses in the ratio of 3 : 2 : 1. After the final accounts have been prepared, it was discovered that interest on drawings @ 5% p.a. had not been taken into consideration. The drawings of the partners were : X ₹ 15,000; Y ₹ 12,6000, Z ₹ 12,000. Give the necessary adjusting journal entry. 3
- Q.9 Alpha Ltd. has 5,000 8% Debentures of ₹ 100 each due for redemption on March 31, 2012. Assume that Debenture Redemption Reserve has a balance of ₹ 1,90,000 on that date. Record the necessary entries at the time of redemption of debentures. 3
- Q.10 What journal entries should be made for the issue of debentures in the following cases : 3
- (i) X Limited issued 30,000 12% Debentures of ₹ 100 each at par, redeemable at a premium of 5%.
- (ii) Y Limited issued 50,000 12% debentures of ₹ 100 each at a premium of 5% redeemable at par.
- Q.11 Ankur after completing his BBA, Manoj after doing his B. Com and Sakshi after completing his MBA (Marketing) are interested to form partnership to start computer business. The partnership deed provides the following contents :  
 (i) Ankur will contribute ₹ 60,000, Samir ₹ 40,000 and Manoj ₹ 30,000.  
 (ii) Profits will be shared in the ratio of 5 : 3 : 2.  
 (iii) Interest on capital will be allowed @ 10% p.a.  
 They started business on 1<sup>st</sup> April, 2011. During the year 2011-12 the firm earned profit of ₹ 30,000 (before providing interest on capital). During the year, partners' drawings were :- A ₹ 10,000, B ₹ 12,000 and C ₹ 8,000.

On 31<sup>st</sup> March 2012, the court ordered for dissolution of the firm, A Mr. Manoj was found guilty of misconduct and for the branch of partnership agreement.

Following balances appear on the date of dissolution :

Capital account balances	Ankur	Sakshi	Manoj	Total
	₹ 64,500	₹ 37,100	₹ 28,400	₹ 1,30,000

The partnership has no liabilities. All of the assets are non-cash assets and are sold for ₹ 1,27,800.

Required :

- (i) List two values which motivated them to form the partnership and two values affected by the dissolution of the firm. 2
- (ii) Pass journal entries for sale of assets, loss on realization and distribution of cash to partners. 2
- Q.12 P, Q and R are partners sharing profits and losses in the ratio of 5 : 3 : 2. Form 1<sup>st</sup> January, 2006, they decide to sharing ratio, the goodwill should be valued at three years' purchase of the average of five years' profits. The profits and losses of the preceding five years are :  
 Profits : 2001 – ₹ 60,000    2002 – ₹ 1,50,000    2003 – ₹ 1,70,000  
 2004 – ₹ 1,90,000  
 Loss : 2005 – ₹ 70,000.  
 Give the necessary journal entry to record the above change. 4
- Q.13 R.K.Ltd. purchased the following assets from Jimmy Ltd. :  
 Building                                    ₹ 3,70,000  
 Plant and Machinery                    ₹ 5,10,000  
 Furniture                                    ₹ 75,000  
 R.K.Ltd. decided to accept promissory note for ₹ 1,00,000 and balance by issuing 9000 equity shares of ₹ 100 each to Jimmy Ltd. to discharge consideration. Give necessary journal entries in the book of R.K.Ltd. 4
- Q.14 Akash Ltd. issued 1,00,000 shares of ₹ 10 each payable as follows :  
 ₹ 2 on application payable on 1<sup>st</sup> March, 2011; ₹ 3 on allotment payable on 1<sup>st</sup> May, 2011; ₹ 2 on first call payable on 1<sup>st</sup> August, 2011 and ₹ 3 on second and final call payable on 1<sup>st</sup> December, 2011. All these share were subscribed for and amounts duly received. Akriti, who had 8,000 shares, paid the amount of both the calls along with allotment. Suniti, Who had 4,000 shares, paid the amount of second and final call with the first call. Calculate the amount of interest on calls-in-advance payable to Akriti and Suniti. Pass closing entry for interest on calls-in-advance.  
 The Company adopts Table A. 4
- Q.15 A, B and C entered into partnership on 1<sup>st</sup> April, 2011 to share profits and losses in the ratio of 4 : 3 : 3 B. however, personally guaranteed that C's share of profit after charging interest on capital @ 5% p.a. would not be less



than ₹ 40,000 in any year. The capital contributions were : A ₹ 3,00,000, B ₹ 2,00,000 and C ₹ 1,50,000. The profit for the year ended on 31<sup>st</sup> March 2012 before allowing interest on capitals amounted to ₹ 1,60,000.

Prepare Profit and Loss Appropriation A/c. 6

Q.16 A and B share profits and losses in the ratio of 5 : 2. They have decided to dissolve the firm. Assets and external liabilities have been transferred to realization A/c. Pass the journal entries to effect the following :

- (i) Bank Loan of ₹ 12,000 is paid off.
- (ii) A was to bear all expenses of realization for which he is given a commission of ₹ 400.
- (iii) Deferred Advertisement Expenditure A/c appeared in the books at ₹ 28,000.
- (iv) Stock worth ₹ 1,600 was taken over by B at ₹ 1,200.
- (v) An unrecorded computer realized ₹ 7,000.
- (vi) There was an outstanding bill for repairs for ₹ 2,000 which was paid off. 6

Q.17 Metallic Ltd. invited application for 40,000 equity shares of ₹ 50 each issued at a premium of ₹ 10 per share. The amount was payable as follows :

On application and allotment ₹ 20 per share. Balance (including premium) – on first and final call.

Applications for 70,000 shares were received. Applications for 20,000 shares were rejected and pro-rata allotment was made to the remaining applicants. First and final call was made and duly received except on 400 shares allotted to Nitesh and his shares were forfeited.

- (i) Journalise the above transactions and state the maximum amount of discount at which forfeited full shares can be issued.
- (ii) With the rejection of 20,000 applications, which value has been neglected by the company?

OR

Arti Limited invited applications for issuing 80,000 shares of ₹ 10 each at a premium of ₹ 4 per share. The amount was payable as follows :

On Application - ₹ 5 per share

On Allotment - ₹ 9 per share (including premium)

Applications were received for 1,40,000 shares.

Allotment was made on the following basis :

- (i) To applicants for 80,000 shares – 60,000 shares
- (ii) To applicants for 60,000 shares – 20,000 shares

Money overpaid on applications was utilized towards sum due of allotment. Rajiv belonging to category (i), who had applied for 1,200 shares failed to pay his dues and his shares were forfeited.

(i) Pass journal entries in the books of Arti Limited to record the above transactions and state the minimum amount required to reissue forfeited shares?

(ii) With the allotment of available shares among all the applicants which value has been taken care of by the company? 8

Q.18 Rajat and Ravi are partners in a firm sharing profits and losses in the ratio of 7 : 3. Their Balance Sheet as at 31<sup>st</sup> March, 2012 is as follows :

Liabilities		₹	Assets		₹
Creditors		60,000	Cash in hand		36,000
Reserve		10,000	Cash at Bank		90,000
Capital Accounts :			Debtors		44,000
Rajat	1,00,000		Stock		50,000
Ravi	80,000	1,80,000	Furniture		30,000
		2,50,000			2,50,000

On 1<sup>st</sup> April, 2012, they admit Rohan on the following terms :

- (i) Goodwill is valued at ₹ 40,000 and Rohan is to bring in the necessary amount in cash as premium for goodwill and ₹ 60,000 as capital for ¼ share in profits.
- (ii) Stock is to be reduced by 40% and furniture is to be reduced to 40%.
- (iii) Capitals of the partners shall be proportionate to their profit sharing ratio taking Rohan's Capital as base Adjustments of capitals to be made by cash.

Prepare Revaluation Account, Partners' Capital Accounts and Cash Account.

OR

The Balance Sheet of X, Y and Z who were sharing profits in the ratio of 5 : 3 : 2 as at March 31, 2012 :

Balance Sheet as at 31<sup>st</sup> March, 2012 is as follows :

Liabilities		₹	Assets		₹
Creditors		50,000	Cash at Bank		40,000
Employees' Provident fund		10,000	Sundry Debtors		1,00,000
Profit & Loss Accounts :		85,000	Stock		80,000
X	40,000		Fixed Assets		60,000
Y	62,000	1,35,000			
Z	33,000	2,80,000			2,80,000

X retired on March 31, 2012 and Y and Z decided to share profits in future in the ratio of 2 : 3 respectively. The other terms on retirement were as follow :

- (i) Goodwill of the firm is to be valued at ₹ 80,000.
- (ii) Fixed Assets are to be valued at 57,500.

- (iii) Make a provision for doubtful debts at 5% on debtors.  
 (iv) A liability for claim, included in creditors for ₹ 10,000, is settled at ₹ 8,000.

The amount to be paid to X by Y and Z in such a way that their capitals are proportionate to their profit sharing ratio and leave a balance of ₹ 15,000 in the Bank Account.

Prepare Profit and Loss Adjustment, Account; Partners' Capital Accounts and Bank Account. 8

**PART – B**

**Financial Statements Analysis**

- Q.19 Assuming that the Debt Equity Ratio is 1 : 2, state giving reason, whether the ratio will improve, decline or will have no change in case equity shares are issued for cash. 1
- Q.20 Mention the net amount of 'Source' or 'Use' of cash when a fixed asset (having book value of ₹ 15,000) is sold at a loss of ₹ 5,000. 1
- Q.21 Dividend paid by a trading company is classified under which kind of activity while preparing cash flow statement. 1
- Q.22 Show the major headings with two sub-headings each into which the assets side of company's Balance Sheet is organized and presented as per Schedule VI Part I of the Companies Act, 1956. 3
- Q.23 Prepare the Common Size Income Statement form the following information : 4

Particulars	31.03.2011 ₹	31.03.2012 ₹
Revenue from operations (Sales)	1,00,000	1,00,000
Cost of material consumed	70% of sales	74.8% of sales
Operating Expenses	8,000	9,800
Income Tax Rate	50%	50%

- Q.24 A company's Stock Turnover is 5 times. Stock at the end is ₹ 20,000 more than at the beginning. Sales are ₹ 8,00,000. Rate of Gross Profit on cost ¼; Current Liabilities ₹ 2,40,000. Acid Test Ratio 0.75. Calculate current ratio. 4

- Q.25 The Balance Sheets of Kewal Ltd. as on 31<sup>st</sup> December, 2010 and 31<sup>st</sup> December, 2011 were as follows :- 6

Particulars	31.12.2011 ₹	31.12.2010 ₹
1. Equity and Liabilities		
Share Capital	10,00,000	7,00,000
Profit and Loss Balance	2,50,000	1,50,000
Proposed Dividend	50,000	40,000
Total	13,00,000	8,90,000
2. Assets		
Plant and Machinery	8,00,000	5,00,000
Stock	1,00,000	75,000
Cash	4,00,000	3,15,000
Total	<b>13,00,000</b>	<b>8,90,000</b>

Additional Information :-

- (i) ₹ 50,000 depreciation has been charged to Plant and Machinery during the year 2011.
- (ii) A piece of Machinery costing ₹ 12,000 (book value ₹ 5,000) was sold at 60% profit on book value.

**\*\*ALL THE BEST\*\***

## General Instruction:-

All questions are compulsory. Answer to questions carrying **1 mark** should not exceed **30** words each. Answer to questions carrying **2 marks** should not exceed **40- 60** words each. Answer to questions carrying **3 marks** should not exceed **60-80** words each. Answer to questions carrying **5 marks** should not exceed **100-125** words each.

**PART - A**

- |      |   |   |
|------|---|---|
| Q.1  | What do you mean by recreational activities?                            | 1 |
| Q.2  | What do you mean by the term “seeding”?                                 | 1 |
| Q.3  | What is “lordosis”?   | 1 |
| Q.4  | Explain any one essential element of positive sports environment.       | 1 |
| Q.5  | Describe the origin of Yoga.  | 1 |
| Q.6  | What are carbohydrates?   | 1 |
| Q.7  | What is fartlek training method?  | 1 |
| Q.8  | Mention any two advantages of circuit training?                         | 1 |
| Q.9  | Briefly explain any two importance of sports Psychology.                | 2 |
| Q.10 | Explain the types of anxiety.   | 2 |
| Q.11 | Highlight any six important principles of physical fitness development. | 2 |
| Q.12 | Explain the meaning of sports environment.                              | 2 |
| Q.13 | Suggest four corrective exercises for flat foot.                        | 2 |
| Q.14 | Define knock – knees and explain the corrective measures for it.        | 3 |
| Q.15 | What is the role of an individual in improvement of sports environment? | 3 |
| Q.16 | Distinguish between aerobic and anaerobic activities.                   | 3 |

- |      |   |   |
|------|---|---|
| Q.17 | Adolescence is the age of ‘stress and strain’. Explain.   | 3 |
| Q.18 | What do you mean by knock out tournament. Draw the fixtures of 21 teams on knock-out basis.           | 5 |
| Q.19 | What does the word ‘training’ mean in sports? Explain any two methods of speed development in detail. | 5 |
| Q.20 | What is balance diet? Elucidate its elements.   | 5 |
| Q.21 | Explain any five importance of Yoga in detail.  | 5 |

**PART – B**

- |      |   |   |
|------|---|---|
| Q.22 | Mention two latest changes in general rules of your game.                   | 2 |
| Q.23 | Write any three fundamental skills of your game.                            | 3 |
| Q.24 | Draw a neat diagram of field / court of your game with all its measurement. | 5 |
| Q.25 | Write a short note on school games federation of India. (SGF)               | 2 |
| Q.26 | Explain the soft tissue injuries (Any Three).                               | 3 |
| Q.27 | Name the important national sports Awards and explain any one of them.      | 5 |

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- Q.29 (i) Suggest which type of organizational structure must a multi-product company implement?
- (ii) What is the other type of organizational structure which is suitable for large organization, which has diverse activities which require high degree of specialization.
- (iii) Differentiate between both on basis of :-
- |                    |                    |         |
|--------------------|--------------------|---------|
| (a) Formation      | (b) Specialization |         |
| (c) Responsibility | (d) Cost           | 2+2+2=6 |

OR

- (i) Name the type of organization in which decision making authority lies with the top management?
- (ii) As organization grow in size and complexity, which type of organizational set up becomes necessary? Name it. Also explain two ways in which it is important for an organization.
- (iii) Differentiate between two structures on the basis of –
- |            |             |
|------------|-------------|
| (a) Nature | (b) Purpose |
|------------|-------------|
- Q.30 (i) A function of management beings analyzing the number and type of people required in an organization, name this function.
- (ii) Explain the various steps under taken in this process of management. 2 + 4 =6

OR

A function of management is concerned with guiding, instructing and motivating subordinates. Name it, also clearly bring out the importance of this function in an organization.

**\*\* ALL THE BEST \*\***

**Code. No. 12/Business Study/NLCS/80**

**Second Pre Board Examination 2013 – 14**

**Time: 3:00 Hrs.**

**M. M. 90**

**GENERAL INSTRUCTIONS:**

- (i) Answer to questions carrying 1 mark may be from one word to one sentence.
- (ii) Answer to questions carrying 3 marks may be from 50 to 75 words.
- (iii) Answer to questions carrying 4-5 marks may be about 150 words.

- Q.1 Renu purchased an electrical appliance from M/s R.S. Enterprises. When she suffered damages she wanted to claim compensation of Rs. 30 lakhs. Advise her as to with which authority she must file her complaint. 1
- Q.2 Swati wants to purchase a litre of bottled water from an eatery. But the manager refuses to divulge the date of manufacture and MRP. Name the right of Swati as a consumer which has been violated. 1
- Q.3 State why the fixed capital needs of computer industry are different from that of furniture Industry. 1
- Q.4 State very briefly the primary aim of financial management? 1
- Q.5 Name the management function which bring back the management cycle to the planning function? 1
- Q.6 State two ways by which management helps in development of society? 1
- Q.7 Name the managerial activity the purpose of which is to secure unity of action in realization of a common purpose? 1
- Q.8 State why management principles are said to be behavioural? 1
- Q.9 “The application of management principles depend on situations prevailing at a particular point of time”. State which feature of management principles is being referred to here? 1
- Q.10 Define “business environment”. 1
- Q.11 Define “controlling”. 1
- Q.12 State any one limitation of controlling. 1

- Q.13 With reference to the capital market state :-  $1+1+1=3$   
 (i) Its two main parts  
 (ii) Participants in this market  
 (iii) Instruments traded
- Q.14 state how planning promotes innovative ideas? 3
- Q.15 How is an “informal organization” formed? State any two disadvantages of such an organization. 3
- Q.16 Some methods of training directly train employees at the actual work place.  $1+1+1=3$   
 (i) Name such method of training.  
 (ii) Briefly explain any two methods of training.
- Q.17 Explain any three functions of branding. 3
- Q.18 Explain how controlling :- 3  
 (i) Motivates employees and  
 (ii) helps in achievement of goals
- Q.19 From consumer’s point explain why consumer protection is important. (Any Two)  $2+2=4$
- Q.20 “To tackle uncertainty in respect of availability and timing of funds and to help in smooth functioning of an organization” a certain important function of financial management is required. Name the function and state any three points highlighting its importance?  $1+3 = 4$
- Q.21 Explain three important leadership style and also state where they are applicable. 4
- Q.22 State and explain Any Four macro – level factors related to production and distribution which have an impact on economic environment of India. 4
- Q.23 Name the section of financial market which is market for long term funds and deals in assets whose maturity period is more than one year. Also explain any two instruments traded in primary market.  $1 + 4 =5$
- Q.24 “Packaging has acquired great significance in the marketing of goods.” In the light of this statement state Any Five functions of packaging? 5

- Q.25 Mukesh is a manager in Delco. Ltd. a firm manufacturing plastic ware.  
 (i) What are the main function performed by him?  
 (ii) When would the management term him as efficient and when would be called effective? Explain with a suitable example.  $1+4=5$
- Q.26 Explain the following principles of management. 5  
 (i) Science not rule of thumb.  
 (ii) Espirit de corps.
- Q.27 Explain the following :-  $1+2+3=6$   
 (i) Name the simplest and shortest mode of distribution of goods from producer to consumers.  
 (ii) Name any two other methods of distribution of goods.  
 (iii) Explain any three factors which determine choice of channel of distribution.

OR

Explain the following :-

- (i) Milk is sold in plastic sachets. Which level of packing is this?  
 (ii) Why is packaging important? Give any three reasons.  
 (iii) Explain how packaging and labeling are different?
- Q.28 (i) Name the decision of financial management related to retained earnings.  $1 + 5=6$   
 (ii) Explain any five factors which affect such decisions?

OR

- (i) Name the decision of financial management which determines how much of funds are to be raised and from which source?  
 (ii) Explain Five factors which affect such decisions?

## Second Pre Board Examination 2013 – 14

Time: 3:00 Hrs.

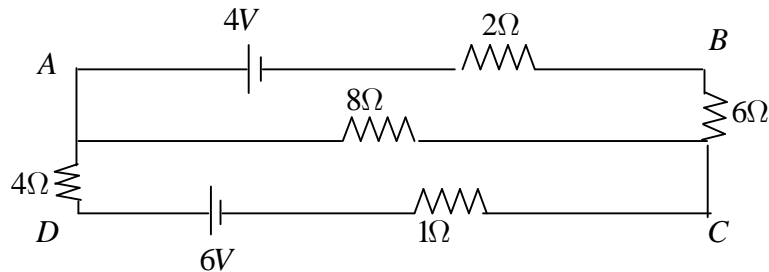
M. M. 70

- Q.28 For an n-p-n transistor in the common-emitter configuration, draw a labelled diagram of an arrangement for measuring the collector current as a function of collector-emitter voltage for at least for two different values of base current. Draw the shape of the curves obtained. Define the terms: (a) output resistance, and (b) current amplification factor.

OR

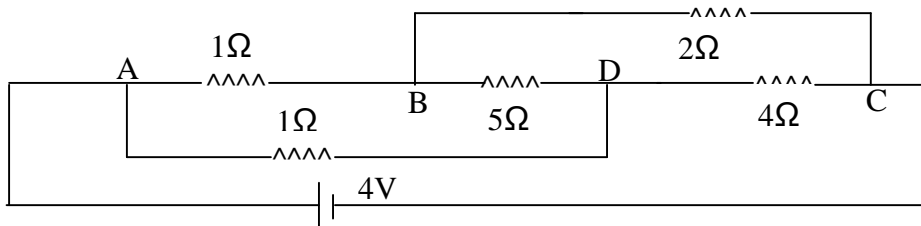
Write an expression for the force experienced by a charged particle moving in a uniform magnetic field  $B$ . With the help of a diagram, explain the principle and of a working cyclotron. Show that cyclotron frequency does not depend on the speed of the particle?

- Q.29 Using Kirchoff's laws, calculate the potential difference across the  $8\Omega$  resistor.



OR

Calculate the current drawn from the battery by the network of the resistor shown in figure:



\*\* ALL THE BEST \*\*

**General instruction:** (a) All questions are compulsory

(b) Question 1 to 8 carrying **one mark** each, 9 to 16 carrying **two marks** each, Question 17 to 25 carrying **three marks** each, and question 26 carrying **four marks**

Question 27 to 29 carrying **five marks** each.

(c) There is no overall choice; however an internal choice is given some questions. You have to attempt only one of the given choices in such questions.

(d) You may use the following physical constant wherever necessary:  
 $C=3 \times 10^8$  m/s,  $h=6.6 \times 10^{-34}$  Js,  $e=1.6 \times 10^{-19}$  C,  $\mu_0=4\pi \times 10^{-7}$  Tm/A, Boltzmann's constant  $=1.38 \times 10^{-23}$ ,

Avogadro's number  $=6.023 \times 10^{23}$  Mass of neutron  $m_n=1.6 \times 10^{-27}$  kg.

Q.1 Sketch three equipotential surfaces for a point charge.

Q.2 How does the magnetic moment of an electron in a circular orbit of radius  $r$  and moving with a speed  $v$  change when the frequency of revolution is doubled.

Q.3 An ideal inductor is in turn put across 220 V, 50 Hz and 220 V, 100 Hz supplies. Will the current flowing through it in the two cases be same or different?

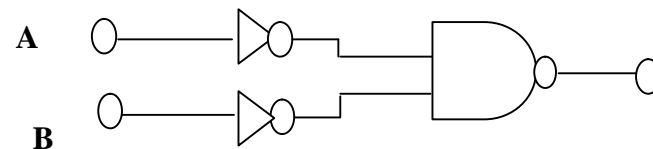
Q.4 Name the part of the electromagnetic spectrum, which is used in "green house" to keep plants warm.

Q.5 Light of wavelength  $6000 \text{ \AA}$  in air enters a medium of refractive index 1.5. What will be its frequency in the medium?

Q.6 Red light, however bright, cannot cause emission of electrons from a clean zinc surface. But even weak ultraviolet can do so why?

Q.7 Four nuclei of an element fuse together to form a heavier nucleus. If the process is accompanied by release of energy, which of the two the parent or the daughter nucleus would have a higher binding energy/nucleon.

Q.8 You are given a circuit as shown in figure below. Show that circuit act as NAND gate.



- Q.9 Define the term 'electric field intensity'. Electric field inside a conductor is zero. Explain.
- Q.10 Two charges  $2\mu\text{C}$  and  $-2\mu\text{C}$  are placed at point A and B 6 cm apart.  
 (a) Identify an equipotential surface of the system  
 (b) What is the direction of the electric field at every point on this surface?
- Q.11 A bird perches on a bare high power line and nothing happens to the bird. A man standing on the ground touches the same line and gets a fatal shock. Why?
- Q.12 State Kirchhoff's laws for electrical circuit. Write the balance condition for a Wheatstone bridge?
- Q.13 A lamp is connected in series with a capacitor. Predict your observation for D.C. and a.c. connections. What happens in each case if the capacitance of the capacitor is reduced?

OR

- In half wave rectification, what is the output frequency if the input is 50 Hz? What is the output frequency of a full wave rectifier for the same input frequency?
- Q.14 How are eddy currents produced? Mention two applications of eddy currents?
- Q.15 State four properties of electromagnetic waves?
- Q.16 Draw a labelled diagram of experimental set up of Rutherford's  $\alpha$  particle scattering experiment. Write two important inferences drawn from this experiment.
- Q.17 Name one device for producing plane polarised light. Draw a graph showing the variation of intensity of polarised light transmitted by an analyzer?
- Q.18 A TV tower has a height of 75 m. What is the maximum distance and area up to which this transmission can be received? Take radius of earth 6400 Km.
- Q.19 The radii of curvature of the faces of a double convex lens are 10 cm and 15 cm. If focal length is 12 cm. what is the refractive index of glass?
- Q.20 An alternating emf is applied across a capacitor. Show mathematically that the current leads the emf by a phase angle  $\pi/2$ . What is its capacitive reactance? Draw a graph showing the variation of capacitive reactance with the frequency of a.c. source?
- Q.21 Explain the effect of:  
 (a) Potential on photoelectric current and  
 (b) Frequency of incident radiation on stopping potential.
- Q.22 Draw a diagram to show the variation of binding energy per nucleon with mass number for different nuclei. State with reason why light nuclei usually undergo nuclear fusion?

OR

Draw the curve showing binding energy per nucleon with mass number for different nuclei. Briefly state, how nuclear fusion and nuclear fission can explain on the basis of this graph?

- Q.23 If the frequency of incident radiation on a photocell is double for the same intensity, what changes will you observe in  
 (a) the K.E. of the photoelectrons emitted.  
 (b) Photoelectric current and  
 (c) stopping potential? Justify your answer.
- Q.24 With the help of a labelled circuit diagram, explain the use of a transistor as an oscillator?
- Q.25 A transmitting antenna at the top of a tower has a height 32 m and the height of the receiving antenna is 50 m. What is the maximum distance between them for satisfactory communication in line of sight (LOS) mode? Given radius of earth  $6.4 \times 10^6$  m.
- Q.26 Suhana used to live with her grandmother. Suhana's grandmother asked her to purchase a torch because the old one was not working. Suhana made a torch by using LED and gave it as a gift to her. She explained the advantages of LED over a bulb. Her grandmother was very happy, the torch proved to be of great help for her.  
 (i) What conclusion do you draw from the incident of Suhana?  
 (ii) Why LED is better choice give any two reasons?  
 (iii) Define the working of LED?
- Q.27 State the principle which helps us to determine the shape of the wave front at a later time from its given shape at any time. Apply this principle to:  
 (a) Show that a spherical / plane wave front continues to propagate forward as a spherical/ plane wave. (b) Derive Snell's law of refraction by drawing the refracted wave front corresponding to a plane wave front incident on the boundary separating a rarer medium from a denser medium.

OR

What do we understand by 'polarisation' of a wave? How does this phenomenon help us to decide whether a given wave is transverse or longitudinal in nature?

Light from an ordinary source (say a sodium lamp) is passed through a Polaroid sheet  $P_1$ . The transmitted light is then made to pass through a second Polaroid sheet  $P_2$  which can be rotated so that the angle  $\theta$  between the two Polaroid sheets varies from  $0^\circ$  to  $90^\circ$ . Show graphically the variation of the intensity of light, transmitted by  $P_1$  and  $P_2$ , as a function of the angle  $\theta$ . Take the incident beam intensity as  $I_0$ . Why does the light from a clear blue portion of sky, show a rise and fall of intensity when viewed through a Polaroid which is rotated?

- Q.28 (i) Write four symptoms of Anaphylactic shock.  
(ii) What is innate immunity. List the physical barriers of innate immunity.  
(iii) Define autoimmunity.

OR

- (i) Name the source of Taq polymerase. Explain the advantages of its use in Biotechnology.  
(ii) Expand the name of the enzyme ADA. Why is this enzyme essential in human body? Suggest a gene therapy for its deficiency.

Q.29 Write notes on –

- (i) Evidences of evolution from molecular biology & biochemistry.  
(ii) Three postulates of Neo-Lamarckism.

OR

- (i) Differentiate between –  
(a) Oestrous & Menstrual cycle.  
(b) Binary & Multiple fission  
(ii) Diagrammatically show Gemmulation.

\*\* ALL THE BEST \*\*

Code. No. 12/Biology/NLCS/13

## Second Pre Board Examination 2013 – 14

Time: 3:00 Hrs.

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General Instructions:

- (i) All questions are compulsory.  
(ii) The question paper consists of four sections A, B, C and D.  
Section–A Q. No. 1 to 8 contains 8 questions of **1 mark** each.  
Section–B Q. No. 9 to 16 is of 8 questions of **2 marks** each.  
Section–C Q. No. 17 to 25 is of 9 questions of 3 marks each.  
**Q.No. 26 is one question of 4 Mark.** Section–D Q. No. 27 to 29 is of 3 questions of **5 marks** each.  
(iii) There is no overall choice. If choice is given attempt only one of the alternatives in such questions.  
(iv) Wherever necessary, the diagrams drawn should be neat and properly labelled.

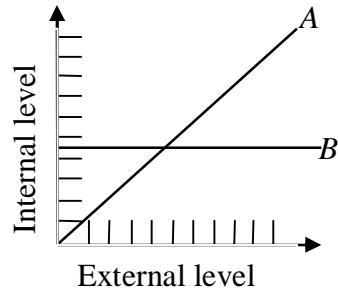
### SECTION – A

- Q.1 Give an example of an inverted ecological pyramid. What kind of pyramid of energy would it have.  
Q.2 When is the structure & composition of a community expected to remain unchanged?  
Q.3 At what stage in life is oogenesis initiated in a human female? When does the oocyte complete oogenesis?  
Q.4 Why are bottled juices clearer than juices prepared at home?  
Q.5 After a successful in-vitro fertilization, the fertilized egg begins to divide. Where is this egg transferred before it reaches the 8-cell stage and what is the technique named?  
Q.6 How does non virulent strain of Streptococcus pneumoniae become virulent in F Griffith's experiment.  
Q.7 Aa Bb was crossed with aa bb. What would be the phenotypic ratio of the progeny? Mention the term to denote this kind of cross.  
Q.8 Bacteria that convert milk into curd also play other two other beneficial roles. What are those roles?

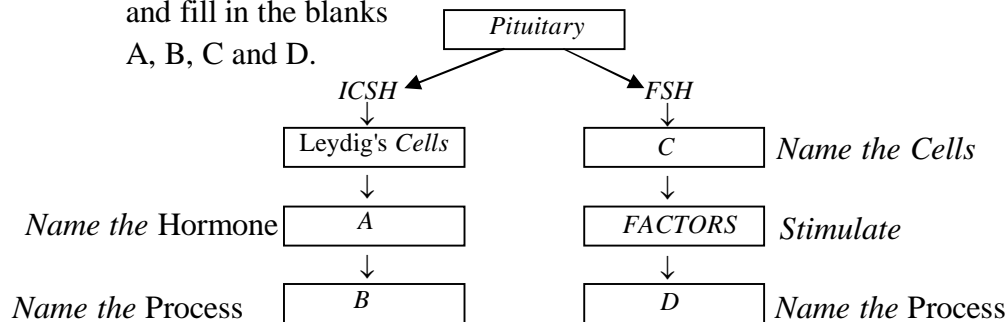


## SECTION – B

- Q.9 Given below is a graph depicting the response of organisms to changing external conditions. According to their response the organisms are grouped into two types. Name the type which will show –(i) pattern A and (ii) Pattern B.



- Q.10 Given below is an incomplete flow chart showing influence of hormones on gametogenesis in males observe the flowchart carefully and fill in the blanks A, B, C and D.



- Q.11 Mention the reasons for difference in ploidy of zygote and Primary Endosperm nucleus in an angiosperm.
- Q.12 Differentiate between competition and predation.
- Q.13 What is puberty and when does it occur in a human male and human female?
- Q.14 Following are the steps of a MOET programme for breed improvement in a cow. Arrange them in their correct sequence.
- (i) Transferred to a surrogate mother.
  - (ii) Mating with an elite bull or artificially inseminated.
  - (iii) Fertilized eggs at 32 celled stage recovered non surgically.
  - (iv) It produces 6-8 eggs instead of one egg which they normally yield.

- Q.15 Give any two characteristics of GMO's.
- Q.16 What are cry proteins? How are cryproteins beneficial to man?

## SECTION – C

- Q.17 Explain (i) Biotic potential (ii) Environmental Resistance (iii) Carrying capacity
- Q.18 Briefly explain any three features of sedimentary cycle –
- Q.19 (i) Give any two differences between production & decomposition.  
(ii) Name the term used for 'Development of Embryo form zygote.'
- Q.20 What is Single Cell Protein and what are its advantages?
- Q.21 (i) Can microbes be used as a source of energy? If yes, how?  
(ii) Name the transgenic cow that produces human protein enriched milk.
- Q.22 Diagrammatically show the three steps of PCR.
- Q.23 Give any three difference between B-cells and T-cells.
- Q.24 Write short notes on –
- (i) Klinefelters syndrome
  - (ii) Turner's syndrome
- Q.25 Differentiate between follicular phase and luteal phase.
- Q.26 **Ruby and Reeny watched the movie 'Jurassic Park'. The movie deals with giant reptiles of that era with large dagger like teeth. Some were carnivores, some herbivores while the others were omnivores. Ruby & Reeny had some questions in their minds.**
- (i) Name the giant reptiles.
  - (ii) In which era and period of geological time scale did they dominate the earth.
  - (iii) Name the phenomenon of extinction of these reptiles on a large scale.
  - (iv) What were the reasons of large scale deaths and destructions of these reptiles.

## SECTION – D

- Q.27 Describe stepwise the process of DNA fingerprinting.

OR

Provide experimental evidence for semi conservative mode of replication of DNA.