

**Half Yearly Examination 2015 – 16****Time: 3:00 Hrs.****M. M. 70**

- Q.1 Give the meaning of Adventure Sports. 1
- Q.2 List the name of famous places for adventure activities in central India. 1
- Q.3 Define leadership and mention the types of leadership. 1
- Q.4 How will you evaluate the daily energy requirement of an individual? 1
- Q.5 Explain the correct sitting posture. 1
- Q.6 Mention the advantages of correct posture. 1
- Q.7 List the causes of Bad posture. 1
- Q.8 Explain play and Recreation for quality life. 1
- Q.9 What do you mean by lactate threshold? 1
- Q.10 What do you mean by coping strategies? 1
- Q.11 Explain Acceleration Run method. 1
- Q.12 Explain the meaning of Intramural and extramural. Explain the need of extramural activities.  $1\frac{1}{2} + 1\frac{1}{2} = 3$
- Q.13 What do you mean by tournament. What are the types of tournaments? Make a knock out fixture of 23 teams with quarters.  $\frac{3}{4} + \frac{3}{4} + 1\frac{1}{2} = 3$
- Q.14 List the name of adventure sports and explain the safety measures during adventure sports.  $1 + 2 = 3$
- Q.15 Explain the following postural deformities and their corrective measures.
- (i) Lordosis  $\frac{1}{2} + \frac{1}{2} = 1$
- (ii) Knock-knees  $\frac{1}{2} + \frac{1}{2} = 1$
- (iii) Flat foot  $\frac{1}{2} + \frac{1}{2} = 1$
- Q.16 Which test was develop to compare and evaluate the physical fitness standards of American Youth and school children. Explain the administration and procedure of this test.  $\frac{1}{2} + 2\frac{1}{2} = 3$
- Q.17 Explain the administration and procedure of the test which is developed to measure the muscular strength of an individual. 3
- Q.18 What do you mean by Biomechanics. Define projectile and state the factors affecting projectile.  $1 + \frac{1}{2} + 1\frac{1}{2} = 3$
- Q.19 Explain the relationship between work. Energy and power. 3
- Q.20 Give the detail of interval training method for endurance development. 5
- Q.21 Define maturation. What are its types? How would you motivate students to participate in games and sports?  $1 + 1 + 3 = 5$
- Q.22 Explain the following with their management -
- (i) Contusion  $\frac{1}{2} + \frac{1}{2} = 1$
- (ii) Abrasion  $\frac{1}{2} + \frac{1}{2} = 1$
- (iii) Laceration or Incision  $\frac{1}{2} + \frac{1}{2} = 1$
- (iv) Strain  $\frac{1}{2} + \frac{1}{2} = 1$
- (v) Explain “RICER” 1
- Q.23 List the women physiological changes. Explain the female Athlete Triad.  $2 + 3 = 5$
- Q.24 Explain the activities for quality life with their Importance. 5
- Q.25 Explain the nutritive and Non nutritive components of balanced diet. 5
- Q.26 Explain the effect of exercises on Respiratory system and cardiovascular system. 5

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*Half Yearly Examination 2015 – 16***Time: 3:00 Hrs.****M. M. 70****Instructions :-**

Section – A comprises of Q.1 to 5 with **One Mark** each. Section – B carries Q.6 to 10 with **Two Marks** each. Section – C carries Q.11 to 22 has **Three Marks** each. Section – D Q. 23 is a value based question and carries **Four Marks**. Section – D Q.24, 25 and 26 are **Five Marks** Questions with internal choice.

**Section – A**

- Q.1 Mention one positive and one negative application of amniocentesis.
- Q.2 Give two reasons why sanitary landfills are not found to be a solution for solid waste in metro cities.
- Q.3 Name two green house gases produced by anaerobic microbes.
- Q.4 Expand IUCN.
- Q.5 What is the reason for faster rate of decomposition in the tropics?

**Section - B**

- Q.6 Migration may enhance or blur the effects of selection. Comment.
- Q.7 Write the difference between tender coconut water and the thick, white kernel of a mature coconut and their ploidy.
- Q.8 State the evolutionary relationship giving reasons, between the thorn of *Bougainvillea* and tendril of *cucurbit*.
- Q.9 Fertilization is not an obligatory event for fruit formation in certain plants. Explain the statement.
- Q.10 Name the natural source of agarose. Mention one role of agarose in biotechnology.

**Section – C**

- Q.11 Differentiate between Graafian follicle and corpus luteum.
- Q.12 Diagrammatically show vasectomy & tubectomy and tabulate the differences between the two processes.
- Q.13 Explain by the help of a diagram the development of a mature embryo sac from a megaspore mother cell in an angiosperm.
- Q.14 What is the genetic basis for proof that codon is a triplet and is read in a contiguous manner without punctuation?
- Q.15 A typical mammalian cell has 2.2m long DNA molecule, whereas the nucleus in which it is packed measures  $10^{-6}$  m. Explain how such a long DNA molecule is packed within a tiny nucleus.
- Q.16 List the salient features of DNA double helix.
- Q.17 Differentiate between primary & secondary immune response.
- Q.18 (i) Baculoviruses are excellent candidates for integrated pest management in an ecologically sensitive area. Explain giving two reasons.
- (ii) What is organic farming? Why is it suggested to switch over to organic farming?
- Q.19 What is inbreeding depression and how is it caused? Write any two advantages of inbreeding.
- Q.20 Differentiate between a Grazing and Detritus food chain. Also giving an example of each.

- Q.21 Why is predation important and required in a community with rich biodiversity? Explain with the help of suitable examples.
- Q.22 What is PBR 322. Draw its well labeled diagram.

**Section – D**

- Q.23 Can you imagine the amount of water that can be saved, if water is not necessary to dispose of human excreta? There are Ecosan toilets functioning in many parts of Kerala and Srilanka.**
- (i) What is meant by Ecological sanitation?**
  - (ii) Mention any four advantages of this method of human waste disposal.**
  - (iii) Mention the key points of this method.**
  - (iv) What values are promoted by such communities?**

**Section – E**

- Q.24 Describe the Polymerase Chain reaction in detail. State any two applications of PCR in medical science.

OR

Draw a labeled diagram of a simple stirred tank bioreactor and describe its functioning.

- Q.25 What is Filariasis and how is it caused. Explain its prevention and control. Explain the effects and source of the following drugs:

- (i) Morphine
- (ii) cocaine

OR

- (i) Explain the different steps involved in sewage treatment before water can be released into water bodies?
- (ii) What do you understand by IPM?

- Q.26 What is Lac operon? Give all its details along with diagrams required.

OR

- (i) How does a chromosomal disorder differ from a Mendelian disorder?
- (ii) Name any two chromosomal aberration' associated disorders.
- (iii) Explain all details of Down's syndrome.

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## Half Yearly Examination 2015 – 16

Time: 3:00 Hrs.

M. M. 100

**General Instructions :-**

- (i) All questions are compulsory.
- (ii) Marks for questions are indicated against each.
- (iii) Question No. 1 to 5 and 16 to 20 carrying One Mark.
- (iv) Question No. 6 to 8 and 21 to 23 carrying Three Marks.
- (v) Question No. 9 to 11 and 24 to 26 carrying Four Marks.
- (vi) Question No. 12 to 15 and 27 to 30 carrying Six Marks.
- (vii) Answer should be brief and to the point and word limit be adhered to as far as possible [ 60 words in 3 Marks, 70 words in 4 Marks and 100 words in 6 Marks.]

**Section – A**

- Q.1 If MRS is constant throughout, the indifference curve will be – 1
- (a) Parallel to the axis                      (b) Downward sloping concave  
(c) Downward sloping convex              (d) Downward sloping straight line
- Q.2 What is the opportunity cost of an input which has no alternative use? 1
- (a) The opportunity cost of an input is zero.  
(b) The opportunity cost of an input is greater one.  
(c) The opportunity cost of an input is difficult to calculate.  
(d) None of the above.
- Q.3 Utility is directly linked with the usefulness of a commodity. Is it – 1
- (a) True    (b) False
- Q.4 A severe drought results in a drastic fall in the output of wheat. How it will affect the market price of wheat – 1
- (a) Market price of wheat will increase    (b) Market price of wheat will not be affect  
(c) Market price of wheat affect richer section of society              (d) All of the above
- Q.5 Which of following this equation of Budget line – 1
- (a)  $P_x x + P_y Y = M$     (b)  $P_x x + P_y Y + M = 0$     (c)  $P_x Y = M$     (d) All of the above
- Q.6 There are large number of buyers in a perfectly competitive market. Explain the significance to this features. 3
- Q.7 State the central problems of an economy. 3
- Q.8 Explain the effects of a price ceiling? (use diagram) 3
- OR
- Explain the effects of a price floor. (Use diagram)
- Q.9 A consumer consumes two goods  $x$  and  $y$ . What will happen if  $MU_x / P_x$  is greater than  $MU_y / P_y$ . 4
- Q.10 A consumer spends ₹ 60 on a good priced at ₹ 5 per unit. When price falls by 20%, the consumer continues to spend ₹ 60 on the good. Calculate price elasticity of demand by percentage method. 4
- OR
- Define an Indifference map, what are it properties.
- Q.11 “Demand and supply are like two blades of a pairs of scissors” comment. 4
- Q.12 Explain the law of variable proportions with the help of total product and marginal product curve (Dig. assumption) 6
- Q.13 Market of a good is in equilibrium. There is simultaneous “increases” both in demand and supply of the goods. Explain its chain effect on market price. 6
- OR
- Market of a good is in equilibrium. There is simultaneous “decreases” both in demand and supply of the goods. Explain its chain effect on market price.

- Q.14 Explain how do the following influence demand for a good – 4×1½=6  
 (i) Rise in income of the consumer (ii) Fall in prices of the related goods  
 (iii) Size of population (iv) Own price of good
- Q.15 **Land acquisition Act** in India has Led to considerable rise in compensation to the farmers whose land is acquired for the establishment of industry. 3 × 2 = 6  
 (i) How is it going to impact the cost structure of new industry?  
 (ii) Will it work as an inducement or a deterrent for the new industry?  
 (iii) Write any one benefit of land Acquisition Act.

**Section – B (Macro Economics)**

- Q.16 “There are two people Rohan and Ravi, Rohan want potatoes in exchange of 2 litres of milk .But Ravi don’t need milk and want to exchange potatoes with the pair of shoe which of the following problem is being faced by Rohan and Ravi in their exchange – 1  
 (a) Lack of double coincidence of wants (b) Absence of common units of value  
 (c) Lack of store value (d) Lack of standard of deferred payment
- Q.17 Which of the following statement is not true for fiscal deficit - 1  
 A fiscal deficit :  
 (a) Represent the borrowing of the Govt.  
 (b) is the difference between total expenditure and total receipts of the Govt.  
 (c) is the difference between total expenditure and total receipts other than borrowing  
 (d) increase the future liability of the Govt.
- Q.18 Which of the following is a characteristic of a good? 1  
 (a) Intangible (b) can be stored  
 (c) Production and consumption must happen simultaneously (d) Can not be transferred
- Q.19 Can average propensity to consume be ever zero? 1  
 (a) True (b) False
- Q.20 Which to the following is developmental expenditure of Govt. - 1  
 (a) Expenditure of Railways (b) Expenditure of defense  
 (c) Interest payment (d) None of the above
- Q.21 If real GDP is ₹ 200 and price index (with base =100) is 110, calculate Nominal GDP. 3
- Q.22 Name the broad categories of transactions recorded in the ‘**capital account**’ of the balance of payment Account. 3

**OR**

Name the broad categories of transactions recorded in the ‘**current account**’ of the balance of payment Account.

- Q.23 Give reason for giving monopoly power of note issue to the central Bank. 3
- Q.24 Explain the benefits of launching “**Jan Dhan Yojna**” by Govt. of India. (Answer should point wise) 4
- Q.25 What do you mean by foreign Exchange Rate? Suppose if inflation is higher in country A than country B and the exchange rate between the countries is fixed. What is likely to happen to the trade balance the two countries? 4
- Q.26 Complete the following table : 4

Income	consumption expenditure	MPC	APS
0	20		
50	55		
100	90		
150	125		

**OR**

Complete the following table :

Income	MPC	Saving	APS	APC
0	0.5	- 80		
5	0.5			
100	0.5			
150	0.5			
200	0.5			

- Q.27 What economic value does following reflect? Explain. 3 × 2 = 6
- (i) Tax rate on higher income group have been increased.
  - (ii) Govt. expenditure on free services like education and health
  - (iii) Subsidy on diesel oil

- Q.28 “**RBI pursued dear money policy**”. 6
- Headlines appeared in the Hindustan Times. Explain with the help of diagram that from which type of situation RBI is combat and how dear money policy affect it. (diagram should be properly labeled and answer in points)

- Q.29 Find National Income and Gross National Disposable Income – 6

	₹ Crors
(i) Net CURRENT TRANSFER FROM ABROAD	5
(ii) Pvt. FINAL CONSUMPTION EXPENDITURE	200
(iii) SUBSIDIES	20
(iv) NET DOMESTIC FIXED CAPITAL FORMATION	40
(v) NET FACTOR INCOME TO ABROAD	10
(vi) GOVT. FINAL CONSUMPTION EXPENDITURE	50
(vii) CHANGE IN STOCK	-10
(viii) IMPORT	-20
(ix) CONSUMPTION OF FIXED CAPITAL	30
(x) INDIRECT TAX	60
(xi) EXPORTS	100

**OR**

Explain the precautions required to be taken in estimating NI by value added and expenditure method.

- Q.30 Find (i) Private Income (ii) National Income 6

	₹ Crors
(i) Personal disposable Income	350
(ii) Income from property and entrepreneurship accruing to the Govt. administrative enterprise	50
(iii) Saving of non departmental enterprises	25
(iv) Direct personal tax	10
(v) Net factor income from abroad	(-) 5
(vi) Indirect taxes	15
(vii) Current transfers to rest of the world	20
(viii) Savings of private corporate sector	25
(ix) Corporation tax	15
(x) Current transfer from Govt.	30

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## Half Yearly Examination 2015 – 16

Time: 3:00 Hrs.

M. M. 100

General Instruction :

- (i) All Questions are compulsory.  
 (ii) The Question Paper divided into Three Sections A, B & C.  
 (iii) **Section – A** Question No. 1 to 6 carry **One Mark** each.  
 (iv) **Section – B** Question No. 7 to 19 carry **Four Marks** each.  
 (v) **Section – C** Question No. 20 to 26 carry **Six Marks** each.

Section - A

Q.1 Find the value of  $\tan \left[ \sin^{-1} \left( \frac{3}{5} \right) \right]$ .

Q.2 Write the vector equation of a line given by :  $\frac{x-5}{3} = \frac{y+4}{7} = \frac{z-6}{2}$ .

Q.3 Solve the differential equation  $\tan y dx + \sec^2 y \tan x dy = 0$ .

Q.4 If  $|\vec{a}| = \sqrt{26}$ ,  $|\vec{b}| = 7$  and  $|\vec{a} \times \vec{b}| = 35$ , then find  $\vec{a} \cdot \vec{b}$ .

Q.5 If the vector  $\vec{a} = 2\hat{i} - \hat{j} + \hat{k}$ ,  $\vec{b} = \hat{i} + 2\hat{j} + 3\hat{k}$  and  $\vec{c} = 3\hat{i} + \lambda\hat{j} + 5\hat{k}$  are coplanar, then find the value of  $\lambda$ .

Q.6 Evaluate :  $\int_0^1 \frac{2x}{1+x^2} dx$ .

Section - B

Q.7 For the matrices A and B, verify that  $(AB)' = B'A'$  if  $A = \begin{bmatrix} 1 \\ -4 \\ 3 \end{bmatrix}$  and  $B = \begin{bmatrix} -1 & 2 & 1 \end{bmatrix}$ .

Q.8 Using properties of determinant, prove that :  $\begin{vmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{vmatrix} = (a+b+c)^3$ .

Q.9 If  $\sin y = x \sin(a+y)$ , then prove that  $\frac{dy}{dx} = \frac{\sin^2(a+y)}{\sin a}$ .

Q.10 Differentiate the following function w.r.t.  $x$ ,  $y = e^{\sin x} + (\tan x)^x$ .

Q.11 Prove the following :  $\cos \left[ \tan^{-1} \left\{ \sin \left( \cot^{-1} x \right) \right\} \right] = \sqrt{\frac{1+x^2}{2+x^2}}$ .

Q.12 A manufacturer produces three models of toys in the form of bikes say X, Y and Z. Model X takes as 10 man hour to make per unit, model Y takes 5 man hour per unit and model Z takes 4 man hour per unit. There are a total 212 man hour available per week. Handling and marketing costs are ₹ 20, ₹ 30 and ₹ 40 per unit for model X, Y and Z, respectively. The total funds available for these purposes are ₹ 920 per week. Profits per unit for model X, Y and Z are ₹ 40, ₹ 10 and ₹ 70, respectively. But at the end of the week, company get a profit of ₹ 810.

- (i) Represent the above data by linear equations and write its matrix form.  
 (ii) Solve the system of equations by matrix method.  
 (iii) What is the importance of making three different models of toys for manufactures?

Q.13 Let the vectors  $\vec{a}, \vec{b}, \vec{c}$  be given as  $a_1\hat{i} + a_2\hat{j} + a_3\hat{k}$ ,  $b_1\hat{i} + b_2\hat{j} + b_3\hat{k}$ ,  $c_1\hat{i} + c_2\hat{j} + c_3\hat{k}$  then show that  $\vec{a} \times (\vec{b} + \vec{c}) = \vec{a} \times \vec{b} + \vec{a} \times \vec{c}$

Q.14 Find the length and foot of the perpendicular drawn from the point  $(2, -1, 5)$  to the line -  $\frac{x-11}{10} = \frac{y+2}{-4} = \frac{z+8}{-11}$ .

OR

Find the equation of plane passing through the point  $P(1,1,1)$  and containing the line

$\vec{r} = (-3\hat{i} + \hat{j} + 5\hat{k}) + \lambda(3\hat{i} - \hat{j} - 5\hat{k})$ . Also, show that the plane contains the line

$\vec{r} = (-\hat{i} + 2\hat{j} + 5\hat{k}) + \mu(\hat{i} - 2\hat{j} - 5\hat{k})$ .

Q.15 If  $\vec{a} = \hat{i} + \hat{j} + \hat{k}$ ,  $\vec{b} = 4\hat{i} - 2\hat{j} + 3\hat{k}$  and  $\vec{c} = \hat{i} - 2\hat{j} + \hat{k}$ , then find a vector of magnitude 6 units which is parallel to the vector  $2\vec{a} - \vec{b} + 3\vec{c}$ .

Q.16 Evaluate :  $\int \frac{5x+3}{\sqrt{x^2+4x+10}} dx$ .

Q.17 Evaluate :  $\int_0^{\pi/2} \frac{\sin^2 x}{\sin x + \cos x} dx$ . **OR** Evaluate :  $\int_0^3 f(x) dx$ , where  $f(x) = |x| + |x-1| + |x-2|$ .

Q.18 Evaluate :  $\int \frac{dx}{5+4\cos x}$ . **OR** Evaluate :  $\int \frac{\sin 2x dx}{(1+\sin x)(2+\sin x)}$ .

Q.19 Find the value of  $k$ , if the function is continuous at  $x = 4$ .  $f(x) = \begin{cases} x^4 - 256 & , x \neq 4 \\ k & , x = 4 \end{cases}$ .

### Section - C

Q.20 Find the area of the region bounded by the parabolas  $y^2 = 4ax$  and  $x^2 = 4ay$ .

OR

Find the area of the region include between the parabola  $y^2 = x$  and the line  $x + y = 2$ .

Q.21 An open box with a square base is to be made out of given quantity of metal sheet of area  $C^2$ . Show that the maximum volume of the box is  $\frac{C^3}{6\sqrt{3}}$ .

Q.22 (i) Show that the differential equation  $\sin x \frac{dy}{dx} + \cos x \cdot y = \cos x \sin^2 x$  is linear and also solve the differential equation.

(ii) Solve the differential equation  $(y+x) \frac{dy}{dx} = y-x$ .

Q.23 Find the equation of the plane passing through the point  $(-1, -1, 2)$  and perpendicular to the planes  $3x + 2y - 3z = 1$  and  $5x - 4y + z = 5$ .

Q.24 Show the relation S defined on the set  $N \times N$  by  $(a,b)S(c,d) \Rightarrow a+d = b+c$  is an equivalence relation.

OR

Let  $A = \mathbb{R} \times \mathbb{R}$  and  $*$  be the binary operation on A defined by  $(a,b) * (c,d) = (a+c, b+d)$ . Prove that  $*$  is commutative and associative. Find the identify element for  $*$  on A. Also write the inverse element of the element  $(3, -5)$  in A.

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

Q.26 A merchant plans to sell two types of personal computers, a desktop model and portable model that will cost ₹ 25000 and ₹ 40000, respectively. He estimates that the total monthly demand of computers will not exceed 250 units. Determine the number of units of each type of computers which the merchant should stock to get maximum profit, if he does not want to invest more than ₹ 70 lakhs and his profit on the desktop model is ₹ 4500 and on the portable model is ₹ 5000. Make an LPP and solve it graphically.

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*Half Yearly Examination 2015 – 16***Time: 3:00 Hrs.****M. M. 70**

- Q.1 (i) What are the advantages of object oriented programming over procedural programming. 2
- (ii) Which C++ header file (S) are essentially required to be included to run / execute the following C++ source code? 1
- ```

void main (
{
    char Text [ 50 ] ;
    strcpy ( Text, "CBSE");
    puts ( Text ) ;
}

```
- (iii) Rewrite the following program after removing the syntax error ( S ), if any underline each correction. 2
- ```

include < iostream. h >
void main (
{
    one = 10 , two = 20;
    func ( one ; two );
    func ( two ) ;
}

void func ( int a, int b = 20 )
a = a + b ;
cont <<a >> b;

```
- (iv) Find the output of the following programme. 3
- ```

# include < iostream. h >
struct SPORT
{
    int score, Bonus ;
};

void play (SPORT & S, int N = 10 )
{
    S. Score ++ ;
    S. Bonus += N ;
}

void main ( )
{
    SPORT S = { 110, 50 } ;
    Play ( S, 10);
    cout << S. Score << ":" << S. Bonus << endl;
    Play ( S,);
    cout << S. Score << ":" << S. Bonus << endl;
    Play ( S, 15);
    cout << S. Score << ":" << S. Bonus << endl;
}

```
- (v) Write the output of the following program : 2
- ```

# include < iostream . h >
class inc
{
    private :
    unsigned int count;
    public :
        Inc ( )
        { count = 0 ; }
    void inc _ count ( )
    { count ++ ; }
    int get _ count ( )

```

```

{   return count ; }
};

void main ( )
{   Inc C1, C2;
    cout << “ \ t C1 = “<< C1. get _ count ( ) ;
    cout << “ \ t C2 = “<< C2. get _ count ( ) ;
    C1. Inc _ count ( ) ;
    C2. Inc _ count ( ) ;
    cout << “ \ t C1 = “<< C1. get _ count ( ) ;
    cout << “ \ t C2 = “<< C2. get _ count ( ) ;

```

(vi) In the following program, find the correct possible output ( S ) form the options. 2

```

# include < stdlib.h>
# include < iostream.h>
void main ( )
{   randomize ( ) ;
    char   Name [ ] [ 10 ] = { “Naksh”, “Saurish”, “Eashita”, “Warun”};
    int ToGo;
    For ( int I = 0 ; I < 3 ; I ++ ]
{   ToGo = random ( 2 ) + 1;
    cout << Name [ ToGo ] << “:” ;

```

outputs :

(i) Saurish: Eashita : Saurish :

(ii) Naksh : Saurish : Warun :

(iii) Saurish : Eashita : Warun :

(iv) Saurish : Eashita : Eashita :

Q.2 (i) Differentiate between a data type struct and a data type class in C++ . What is the need for a constructor function in an object? 2

(ii) Given the following C++code. Answer the questions (i) and (ii) 2

```

class TestMeOut ( )
{   public :
    ~TestMeOut ( )           //function 1
{   cout << “ leaving the examination hall “ << endl;
}

    TestMeOut ( )           // function 2
{   cout << “Appearing for examination “<<endl;}
    void my work ( )       // function 3
{   cout << “Attempting questions “<<endl;}
};

```

(i) In OOP, what is function 1 referred as and when does it get invoked / called /

(ii) In OOP, what is function 2, referred as and when does it get invoked / called /

(iii) Define a class Train in C++ with the following description : 4

Private members

- A data member Train number of type integer.
- A data member Destination of type string.
- A data member Distance of type float.
- A data member fuel of type float.
- A member function CAL ( ) to calculate the value of fuel as per following criteria.

Distance	Fuel
< = 500	300
More than 50 &<<=100	700
More than 1000	1500

Public members :

- A function INPUT ( ) to allow user to enter values for train number rest ination, Distance and call function CAL( ) to calculate the quantity of fuel.
- A function DISPLAY ( ) to allow user to view the content of all the data members.

(iv) Answer the questions (i) to (iv) based on the following code.

```

class cars
{
    char Dcode [ 5 ];
    protected ;
    float price ;
    void calcprice ( float ) ;
public :
    cars ( ) ;
    void cinput ( ) ;
    void cshow ( ) ;
};

class Jeep : public cars
{
    char JName [ 20 ];
    float weaght ;
public :
    Jeep ( ) ;
    void Jinput ( ) ;
    void Jshow ( ) ;
};

class Electronic cars : public cars
{
    char EcName [ 20 ];
    char Battery type [ 10 ];
    int Batteries ;
public :
    ElectronicCars ( ) ;
    void EcInput ( ) ;
    void Ecshow ( ) ;
};

```

- (i) Which type of inheritance is shown in the above example?
- (ii) How many bytes will be required by an object of the class Electroniccars?
- (iii) Write name of all the data members accessible from member functions of class Jeep?
- (iv) Write name of all member functions accessible by an object of the class Electroniccars. 4
- (i) Write a function void Marge (int A [ ], int B [ ], int C[ ], int n) in C++, which combines the contents of two equisized arrays A and B by computing their corresponding elements with the formula  $2 * A [i] + 3 * B [i]$ , where value i varies from 0 to N –1 and transfers the resulting content in the third same sized array namely C. 3
- (ii) An array VAL [ 1.....20] 11.....15] is stored in the memory with each element requiring bytes of storage. If the base address of array VAL is 1500.determine the location of VAL [10] [9], when the array VAL is stored (i) row wise (ii) column wise. 3
- (iii) Write a function in C++ to find sum of diagonal elements from a 2D array of type float, use the array and its size as parameters with float as its return type. 4
- (iv) Convert the following infix expression to its equivalent postfix expression showing stock contents for the conversion. 2

$P+Q * ( R - S ) / T$

- (v) Write a function in C++ to perform push operation on a dynamically allocated stack containing real numbers. Consider the following definition of node in the code.

```

struct NODE
{
    float info
    NODE * Next ;
};

```

Q.4 (i) Observe the program segment given below carefully and answer the question that followings

```

class PracFile
{
    int Pracno ;
    char PracName [ 20 ] ;
    int TimeTaken ;
    int Marks ;
public :
    // function to enter Prac File details
    void EnterPrac ( ) ;
    // function to display Pracfile details
    void ShowPrac ( ) ;
    // function to return Time Taken
    int RtTime ( ) { return Time Taken ; }
    void AssignMarks (int M) // function to assign marks
    {
        Marks =M;}
};

void Allocate Marks ( )
{
    ifstream File ;
    File. Open (“Marks. Dat”, ios : :binary | ios : : in | ios : : out ) ;
    PracFile P ;
    int Record = 0 ;
    while (File. Read ((char *) & P, size of (P)))
    {
        if (P RTtime ( ) > 50 )
            P.AssignMark ( 0 ) ;
    else
        P.Assignmarks ( 10 ) ;
        // S tatement 1
        // S tatement 2
        Record + +;
    }
    File close ( ) ;
}

```

- (i) If the function Allocate Marks ( ) is supposed to Allocate Marks for the records in the File Marks. DAT based on their value of the member Time Taken. WriteC++ statements for statement 1 and statement 2 where Statement / is required to position the file pointer to an appropriate place in the file and statement 2 is to perform the write operation with the modified record 1
- (ii) Write a function in C++ to count total no. of “the” present in a text file story. Txt. 2
- (iii) Write a function in C++ to add new objects at the bottom of a binary file” college. Dat”, assuming the binary file is containing the object of the following class.

```

class COLLEGE
{
    int Regno ;
    char Name [ 20 ] ;
public :
    void input ( )
    {
        cin >> Regno ;
        Gets (Name) ;
    }
    void show ( )
    {
        cont <<Regno<<Name <<endl : }
};

```

Q.5 (a) What do you understand by the terms primary key and degree of a relation in relational database? 2

Answer the question (b) and (c) on the basis of the following tables CLUB and COACHES.

Table : CLUB						
Coach ID	Coach Name	Age	Sports	Date of App.	Pay	Sex
1	Kukreja	35	Karate	27/03/1996	1000	M
2	Ravina	34	Karate	20/01/1998	1200	F
3	Karan	34	Squash	19/02/1998	2000	M
4	Tarun	33	Basketball	01/01/1998	1500	M
5	Zubin	36	Swimming	12/01/1998	750	M
6	Ketaki	36	Swimming	24/02/1998	800	F
7	Ankita	39	Squash	20/02/1998	2200	F
8	Zareen	37	Karate	22/02/1998	1100	F
9	Kush	41	Swimming	13/01/1998	800	M
10	Shailya	37	Basket Ball	19/02/1998	1700	M

Table : COACHES		
Sports Person	Sex	Coach No.
Ajay	M	1
Seema	F	2
Vinod	M	1
Taneja	F	3

(b) Write the SOL Quaries :

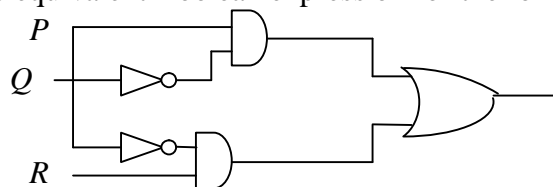
- (i) To show all information about the swimming coaches in the CLUB.
- (ii) To list names of all coaches with their date of appointment in descending order of date of App.
- (iii) To display a report showing coach Name, pay age and bonus ( 15 % of pay) for all the coaches.
- (iv) To insert a new row in the table CLUB with following data. 11, "PARKEASH", 37, "SOUASH";  
{ 25/02/98}, 2500, "m" 4

(c) Give the output of following SOL statements.

- (i) Select count (Distinct Sports) from CLUB
- (ii) Select Min (Age) from CLUB where Sex = "F" ;
- (iii) Select AVG (Pay) from CLUB where Sports="Karate";
- (iv) Select sum (Pay) from CLUB where Date of App > { 31/01/98 } ; 2

Q.6 (a) State and verify absorption law using TT. 2

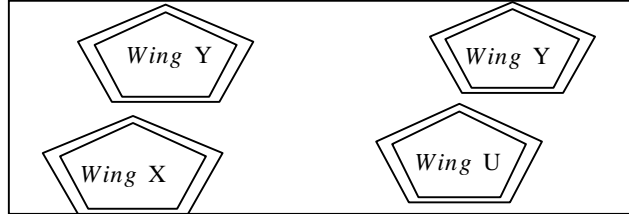
(b) Write the equivalent Boolean expression for the following logic circuit. 2



(c) Write the POS form of a Boolean function G which is represented in a TT as follows : 1

U	V	W	G
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1

- Q.7 (d) Reduce the following Boolean expression using K – Map.  
 $H(U, V, W, Z) = \Sigma(0, 1, 4, 5, 6, 7, 11, 12, 13, 14, 15)$  3
- (i) What is repeaters? 1
- (ii) What is Mosaic used for? 1
- (iii) Expands the following terms : (i) EDGE (ii) MAN 1
- (iv) Differentiate between routers and bridge. 1
- (v) The computer organisation has setup its new branch at Mizoram for its office and web based activities. It has 4 using of building as shown in the diagram.



Center to center distance between various blocks :

Wing X to Wing Z	40 m
Wing Z to Wing Y	60 m
Wing Y to Wing X	135 m
Wing Y to Wing U	70 m
Wing X to Wing U	165 m
Wing Z to Wing U	80 m

Number of computers

Wing X	50
Wing Z	130
Wing Y	40
Wing U	15

- (a) Suggest amount suitable cable layout of connections between the wings and topology. 1
- (b) Suggest the most suitable place (i.e. wing) to house the server of this organization with a suitable reason with justification. 1
- (c) Suggest the placement of the following devices with justification. 1  
 (a) Repeater (b) Hub / Switch
- (d) The organisation nis planning to link its head office situated in Delhi with the office at Mizoram suggest an economic way to connect it. The company is ready to compromise on the speed of connectivity. Justify your answer. 1
- (vi) Give one suitable example of each URL and domain name. 1
- (vii) What are cookies? 1

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## Half Yearly Examination 2015 – 16

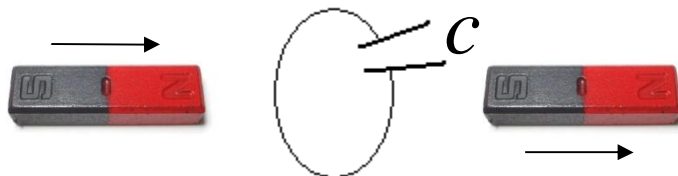
Time: 3:00 Hrs.

M. M. 70

General Instructions :

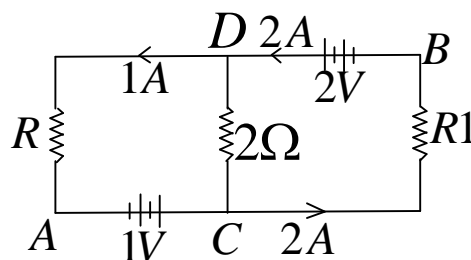
- (a) All questions are compulsory.  
 (b) Question No. **1 to 5** are very short answer questions and carry **One mark** each.  
 (c) Question No. **6 to 10** are short answer questions and carry **Two marks** each.  
 (d) Question No. **11 to 20** are also short answer questions and carry **Three marks** each.  
 (e) Question No. **23** may be value based carrying **Four marks**.  
 (f) Use log tables if necessary. Use of calculator is not allowed.

- Q.1 Define electric dipole moment. Write its SI unit.  
 Q.2 Where on the surface of earth is the angle of dip  $90^\circ$ ?  
 Q.3 A hollow metal sphere of radius 5cm is charged such that the potential on its surface is 10v. What is the potential at the centre of sphere?  
 Q.4 How are radio waves produced?  
 Q.5 Write any two characteristic properties of nuclear force.  
 Q.6 Two bar magnets are quickly moved towards a metallic loop connected across a capacitor as shown in figure predict the polarity of the capacitor.



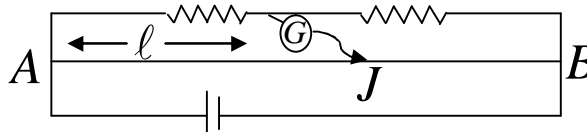
- Q.7 What happens to the width of depletion layer of a p-n junction when it is –  
 (i) forward biased (ii) Reverse bias .  
 Q.8 Define the term “stopping potential” in relation to photoelectric effect.  
 Q.9 A thin straight infinitely long conducting wire having charge density  $\lambda$  is enclosed by a cylindrical surface of radius  $r$  and length  $\ell$ , its axis coinciding with the length of the wire. Find the expression for the electric flux through the surface of the cylinder.  
 Q.10 Plot a graph showing the variation of resistivity with temperature for nichrome. Which property of nichrome is used to make standard resistance coils?  
 Q.11 A steady current ( $I_1$ ) flows through a long straight wire. Another wire carrying steady current ( $I_2$ ) in same direction is kept close and parallel to the first wire. Find expression for force per unit length on each wire and define 1 ampere with help of this.  
 Q.12 What are eddy currents? How can they be generated and minimized. Write any two applications of eddy current.  
 Q.13 Write three applications of internet and explain each in brief?

- Q.14 In the given circuit, assuming point A to be at zero potential. Use Kirchhoff's rules to determine the potential at point B.



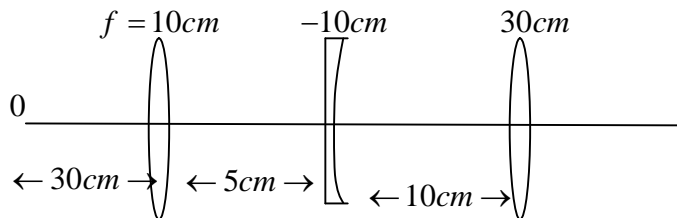
- Q.15 Draw the curve for the binding energy per nucleon as a function of mass number A, state clearly how the release in energy in the processes of nuclear fission and nuclear fusion can be explained.

- Q.16 In the meter bridge experiment, balance point was observed at J with  $AJ = \ell$   
 (i) The value of R and X were doubled and then interchanged. What would be the new position of balance point.



- (ii) If the galvanometer and battery are interchanged at the balance position, how will the balance point get affected?

Q.17 Find the position of the image formed of an object "O" by the lens combination give in the figure?



Q.18 Draw a plot showing variation of photoelectric current with collector plate potential for two different frequencies,  $\nu_1 > \nu_2$  of incident radiation having the same intensity. In which case will the stopping potential be higher? Justify your answer.

Q.19 Use mirror equation to show that :

- (i) An object place between  $f$  and  $2f$  of a concave mirror produces a real image beyond  $2f$ .  
 (ii) Convex mirror always produces a virtual image independent of the location of the object.

Q.20 Draw a labeled diagram of transistor as a switch explains its working?

- Q.21 (i) Using de-Broglie's hypothesis, explain with the help of a suitable diagram, Bohr's second postulate of quantization of energy levels in a hydrogen atom.  
 (ii) The ground state energy of hydrogen atom is  $-13.6 eV$  What are the kinetic and potential energies of the electron in this state?

Q.22 Draw the diagram for compound microscope in General condition. Find its magnification also.

**Q.23 While travelling back to his residence in the car. Mr. Pathak was caught up in a thunderstorm. It became very dark. He stopped driving the car and waited for thunderstorm to stop. Suddenly he notice a child walking alone on the road. He asked the boy to come inside the car till the thunderstorm stopped. Dr. Pathak dropped the boy at this residence. The parents expressed their gratitude to Dr. Pathak for his concern for safely of the child.**

**Answer the following Questions :**

- (i) **Why is it safer to sit inside a car during a thunderstorm?**  
 (ii) **Which two values are displayed by Dr. Pathak in his actions?**  
 (iii) **Which values are reflected in parents response to Dr. Pathak?**

Q.24 (i) State the principle of the working of a moving coil galvanometer, giving its labeled diagram.  
 (ii) "Increase the current sensitivity of a galvanometer may not necessarily increase its voltage sensitivity? Justify this statement.

(iii) Out line the necessary steps to convert a galvanometer of resistance  $R_G$  into ammeter of a given range.

OR

- (i) State the principle of working of cyclotron, given its labeled diagram.  
 (ii) What is the function of Radium magnetic field?  
 (iii) Find kinetic energy and cyclotron frequency?

Q.25 (i) Show that in an ac circuit containing a pure capacitor voltage is lags behind by  $\frac{\pi}{2}$  in phase.

(ii) Draw phase diagram and find power in capacitor circuit.

OR

Define LC oscillator. Find condition for oscillation of charge in LC circuit. Write its working with suitable diagram.

Q.26 (i) Define Interference of fringe. Find condition for constructive & destructive interference  
 (ii) Find width of bright and dark fringe.

OR

- (i) Define diffraction of single slit experiment and find condition for dark and bright band.  
 (ii) Find width of central maximum.

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*Half Yearly Examination 2015 – 16***Time: 3:00 Hrs.****M.M. 80**

- Q.1 Identify the Nature of management when a manager applies the existing theoretical knowledge in his own unique manner? 1
- Q.2 Write names of designations of supervisors who work under production Incharge. 1
- Q.3 Sushil Ltd. Wants to achieve 25% return on Investment. Identify the type of plan. 1
- Q.4 Which of the following is the Ideal situation : 1
- (i) Authority < Responsibility
- (ii) Authority = Responsibility
- (iii) Authority > Responsibility
- Q.5 What is meant by vestibule training? 1
- Q.6 Name the function which reviews the operations in a business units. 1
- Q.7 What do you mean by “private placement”? 1
- Q.8 What is the societal marketing concept? 1
- Q.9 “To manage is to forecast and plan, to organize, to command, to coordinate and to control” enunciated by Fayol. Comment. 3
- Q.10 “Demad for reservation in Jobs for Minorities” refers to an example of key component of general environment of business. Name and explain the component? 3
- Q.11 What does the term “Span of mgt.” refer to? 3
- Q.12 A company can pay any amount of dividend without any restriction. Do you agree? Comments. 3
- Q.13 Explain the various segments of NSE. 3
- Q.14 Aashima purchased desi ghee being claimed as pure by the shopkeeper. Later a laboratory test showed that it was Adulterated : 1+1+2=4
- (i) Identify the values being ignored by the shopkeeper.
- (ii) What precautions should have taken before buying?
- (iii) Mention two remedies.
- Q.15 “In India Panchayats have been given powers to decide and spend funds granted to them by the Govt. for the welfare of villages.” Which principle of mgt. is highlighted in the above statements, Explain. 4
- Q.16 Give a comparison between Authority, responsibility and accountability. 4
- Q.17 How does controlling help in “achieving objectives and Improving employees morale”? 4
- Q.18 Explain how much will be the working capital requirements in manufacturing the following items : 4
- (i) Sugar (ii) Coolers (iii) Bread
- (iv) Scooter (v) Furniture Manufacturing against order.
- Q.19 Garima, a school bag manufacturer decided to improve the product for profit maximization and thus added a water bottle holder to the existing design. 2+2=4
- (i) Identify the marketing mgt. philosophy adopted by Garima. And
- (ii) Explain the philosophy on the basis of :
- (a) Main focus and (b) means and ends.
- Q.20 During the festival season of Diwali, Garg Industry (manufactures of crockery items) said the worker to work from 8 am. to 9.00 pm. Without and break in between. Due to heavy work load, efficiency of workers went down and it led to fall in production level.
- (i) What is the reason of fall in production level. 1
- (ii) Identify the technique which is required to be observed in this case. 2
- (iii) How can this technique help the Garg Industry? 2

Q.21 Niraj a worker is given a target of assembling two computer per day. Due to his habit of doing thing differently, an Idea struck him which would not only reduce the assembling time of computers but would also reduce the cost of production of the computers. Rahul's supervisor instead of appreciating him, ordered him to complete the work as per the methods and technique decided earlier as nothing could be changed at that stage.

The above para describes one of the limitations of planning function of mgt. name and explain remaining limitations? 5

Q.22 Sunil, the director of a garments firm is planning to manufacture bags for the utilization of waste material from one of his garment units. He has decided that this manufacturing unit will beset up in a rural area of Orissa where people have very few Job-opportunities and labour is available at very low rates.

He has also thought of giving equal opportunities to men and women. For this he wants four different heads for sales, accounts, purchases and production. He gives an Advertisement and short lists ten candidates per post after conducting different selection tests.

(i) Identify and state the next three steps for choosing the best candidate out of the candidates short listed. 3

(ii) Also Identify two values which Sunil wants to communicate to the society by setting up this manufacturing unit. 2

Q.23 Discuss Maslow's need hierarchy theory of motivation. 6

**OR**

"Managerial Functions cannot be carried out without an efficient system of communication. Do you agree with this statement? Give any five reasons in support of your answer. 1+5=6

Q.24 The Director of a Newly established firm having paid up equity share capital of Rs. 2.5 crore, desire to get its shares traded at an all India Stock Exchange. As finance manager of the firm, suggest the name of stock exchange for the purpose. Give any three reasons in support of your answer. 6

**OR**

The director of a company want to modernize its plant and machinery by making a public issue of shares. They wish to approach Stock Exchange, while the finance manager prefers to approach a consultant for the New public issue of shares. Advise the director whether to approach stock exchange or a consultant for New public issue of shares and why? Also advise about the different methods which the company may adopt for the new public issue of shares. 6

Q.25 "An important task in the marketing of goods relates to designing the label as it provides useful and detail information about the product."

In the light of the above statement draw a label for a liquid soap" and highlight the important information to be provided on it? 6

**OR**

"An important task in the marketing of goods relates to designing the label as it provides useful and detailed information about the product".

In the light of this statement, draw a label for a packet of "Juice" and highlight important information to be provided on it. 6

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## Half Yearly Examination 2015 – 16

Time: 3:00 Hrs.

M. M. 70

General Instruction :

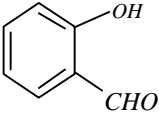
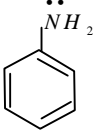
Question No. 1 to 5 carry One Mark each.

Question No. 6 to 10 carry Two Marks each.

Question No. 11 to 22 carry Three Marks.

Question No. 23 carry Four Marks.

Question No. 24 to 26 carry Five Marks.

- Q.1 What is the function of collectors in the froth floatation process for the concentration of ores? 1
- Q.2 What types of force are responsible for the occurrence of physisorption? 1
- Q.3 Why is the single N-N bond weaker than single P-P bond? 1
- Q.4 What type of isomerism is shown by the following complex?  $[Co(NH_3)_6][Cr(CN)_6]$  1
- Q.5 Express the relationship between atomic radius (r) edge length (a) in the B.C.C. unit cell. 1
- Q.6 Write the IUPAC name :  2
- Q.7 Which of two is more basic & why?  $CH_3\ddot{N}H_2$  OR  2
- Q.8 A solution of  $Ni(NO_3)_2$  electrolysed between Pt electrodes using a current of 5.0 ampere for 20 min. What mass of Nickel will be deposited at cathode? 2  
[ given at mass of Ni – 58.7 gm/mol 1F= 96500c/mol]
- Q.9 Define half life of a reaction write the expression of half life for – (i) Zero order (ii) 1<sup>st</sup> order 2
- Q.10 Name the most important allotropes of 'S'. Which one of the two is stable at room temperature? What happens when the stable form is heated above 370K? 2
- Q.11 (i) Write the conditions to maximize the yield of  $H_2SO_4$  by contact process. 3  
(ii) Why  $K_{a_2} \ll K_{a_1}$  for  $H_2SO_4$  in water?
- Q.12 Complete the following equations : 3  
(i)  $2MnO_4^- + 5S^{2-} + 16H^+ \rightarrow$  (ii)  $Cr_2O_7^{2-} + 2OH^- \rightarrow$
- Q.13 Write the state of hybridization, shape & IUPAC naming of the complex :  $[CoF_6]^{3-}$ . 3
- Q.14 Write chemical equation when : 3  
(i) Ethyl Chloride is treated with aq. KOH.  
(ii) Chlorobenzene is treated with  $CH_3COCl$  in presence of Anhydrous  $AlCl_3$
- Q.15 Which alkyl halide from the following pair would you expect to react more rapidly by  $SN_2$  mechanism & why? 3
- (i)  $CH_3 - CH_2 - \overset{Br}{\underset{|}{CH}} - CH_3$  ;  $CH_3 - CH_2 - CH_2 - Br$  .
- (ii) Racemisation occurs in  $SN^1$  reaction why?
- Q.16 (i) What type of stoichiometric defect is shown by KCl & why? 3  
(ii) What type of semiconductor is formed when Si is doped with As?  
(iii) Which one of the molecular solid  $CO_2$  &  $SiO_2$ .
- Q.17 (i) Write two advantages of  $H_2 - O_2$  fuel cell over ordinary cell. 3  
(ii) Equilibrium constant ( $k_c$ ) for the given cell reaction is 10. Calculate  $E^\circ$  cell  
 $A(s) + B^{2+}(aq.) \rightleftharpoons A^{2+}(aq.) + B(s)$

Q.18 The following data were obtained during the 1<sup>st</sup> order thermal decomposition of  $SO_2Cl_2$  at con. Volume– 3

Ex.	Time / Sec.	Total pressure / atm
1	0	.4
2	100	.7

Calculate the rate constant (given  $\log 4 = .6021$ ,  $\log 2 = .3010$ )

Q.19 (i) Write the Freundlich adsorption isotherm for the adsorption of gases on solids. 3

(ii) What are the dispersed phase & medium of butter?

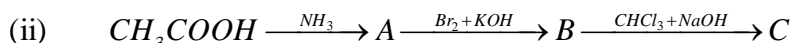
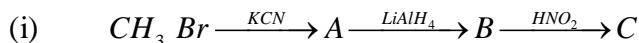
(iii) A delta is formed at the meeting place of sea & river water why?

Q.20 (i) What are the different oxidation states exhibited by transition elements? 3

(ii) Two characteristics of transition elements

(iii) Which of the 3d elements may not be regarded as transition elements & why?

Q.21 Give the structures of A B C : 3



Q.22 Define the following terms : 3

(i) Azeotropes (ii) Osmotic pressure (iii) Colligative properties

Q.23 What is the reactivity order of 1°, 2°, 3° amine in gaseous & in aqueous state explain with suitable reasons? 4

Q.24 Write the chemical reactions : 5

(i) Rosenmund Reduction (ii) Hell Volhard Zelinzky reaction (iii) Cannizzaro

(iv) Fittig (v) Reimer Timan reaction

OR

(i)  $CH_3CHO$  is more reactive than  $CH_3COCH_3$  with  $HCN$  why?

(ii) Why do aldehyde & ketone have higher dipole moment?

Q.25 Draw the structure of : 5

(i)  $XeOF_4$  (ii)  $HClO_4$  (iii)  $H_2S_2O_8$  (iv) Red  $P_4$  (v)  $(H_3PO_3)_3$

OR

(i) Write the method of preparation of  $KMnO_4$ .

(ii) Write the eq. of  $KMnO_4$  with acid, base & in neutral medium.

Q.26 Write a short note on Werner's Co-ordination theory. 5

OR

Isomerism in Co-ordinate compounds.

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*Half Yearly Examination 2015 – 16***Time: 3:00 Hrs.****M. M. 100**

General Instructions :-

- (i) This paper is divided into three Sections – A, B and C. All the Sections are compulsory.
- (ii) Separate instructions are given with each Section and Question, wherever necessary. Read these instructions very carefully and follow them faithfully.
- (iii) Do not exceed the prescribed word limit while answering the Questions.

**Section – A (Reading Comprehension)**

Q.1 Read the following passage carefully :

1. America has a highly developed health care system, which is available to all people. Although it can be very complex and frustrating at times, it has come a long way from the health care organizations of yesterday. Previously, most health care facilities were a place where the sick were housed and cared for until death. Physicians rarely practiced in hospitals and only those who were fortunate could afford proper care at home or in private clinics. Today the level of health care has excelled tremendously. Presently the goal of the health care is to have a continuum of care for the patient, one which is integrated at all levels. Many hospitals offer a referral service or discharge plan to patients who are being discharged. Plans for the patient are discussed with a discharge planner. The discharge planner is a person who is trained in assessing what the patient's requirements for health care will be after discharge from the hospital. This enables the patients to continue their care at a level which is most appropriate for them. Items reviewed for discharge planning include but are not limited to therapies, medication needs, living arrangements and identification of specific goals. A few of the options that are available for persons being discharged from an acute care hospital can include home health care, assisted living facilities, long term care or hospice.

2. According to Growing Old in America (1996), "Home health care is one of the fastest growing segments of the health care industry". Alternatives for home care can meet both the medical and non-medical needs of a patient. These services are provided to patients and their families in their home or place of residence. Home care is a method of delivering nursing care and other therapies as required by the patient's needs. Numerous alternatives are available for persons seeking health care at home. With transportable technologies such as durable medical equipment, oxygen supply and intravenous fluids, there are countless possibilities for treatment within the home setting. As stated in The Continuum of Long Term Care, "Home health programmes range from formal organizations providing skilled nursing care to relatively informal networks that arrange housekeeping for friends." This has allowed for home care to quickly become an essential component of the health care delivery system in the United States.

3. In a home health care situation the primary caregiver is usually not the physician. The physician is communicated with by phone and with documentation from the caregivers. The primary caregivers are usually the nurses and other team members who are involved directly with the patient's care. But, the original order to begin home care must be initiated by the physician if skilled care is to be obtained. According to the 1995 Guide to Health Insurance for People with Medicare, "Medicare pays the full cost of medically necessary home health visits by a Medicare approved home health agency." This coverage must meet specific criteria, but it can be a relief to family members to know that their loved ones can be taken care of at home without worrying about the expenses.

A.1 On the basis of your understanding of the passage, answer the following questions by choosing the most appropriate option. 1×3=3

- (i) In America today, health care system is ----- .
  - (a) Continuous and integrated
  - (b) Complex and disappointing
  - (c) available to the poor only
  - (d) Lucrative only to the physicians
- (ii) In America, the continuum of long term care implies ----- .
  - (a) Health care for the whole life
  - (b) nursing care from an informal sector only
  - (c) Health care for the patient from skilled persons
  - (d) nursing care in the designated hospitals

- (iii) Home care is to be stated by -----.
- (a) The primary caregiver                      (b) the nurses  
(c) the physician                                      (d) nurses and the other team members

A.2 Answer the following questions as briefly as possible :

1×5=5

- (i) Who is the discharge planner?  
(ii) What facilities do the patients get after they are discharged from the hospitals?  
(iii) What do you understand by 'Home Health Care'?  
(iv) What is provided to the patients seeking health care at home?  
(v) Who are primary caregivers?

A.3 Pick out words from the passage which are similar in meaning to the following :

3

- (i) remarkably (Para 1)  
(ii) ways of treating diseases (para 2)  
(iii) A process or action to begin (para3)

Q.2 Read the following passage carefully :

1. Too many parents these days can't say no. As a result, they find themselves raising children who respond greedily to the advertisements aimed right at them. Even getting what they want doesn't satisfy some kids; they only want more. Now, a growing number of psychologists, educators and parents think it's time to stop the madness and start teaching kids about what's really important; values like hard work, contentment, honesty and compassion. The struggle to set limits has never been tougher – and the stakes have never been higher. One recent study of adults who were overindulged as children paints a discouraging picture of their future : when given too much too soon, they grow up to be adults who have difficulty coping with life's disappointments. They also have a distorted sense of entitlement that gets in the way of success in the workplace and in relationships.
2. Psychologists say that parents who overindulge their kids set them up to be more vulnerable to future anxiety and depression. Today's parents themselves raised on values of thrift and self-sacrifice, grew up in a culture where 'no' was a household word. Today's kids want much more, partly because there is so much more to want. The oldest members of this Generation Excess were born in the late 1980s, just as PCs and video games were making their assault on the family room. They think of MP3 players and flat-screen TVs as essential utilities, and they have developed strategies to get them. One survey of teenagers found that when they crave something new, most expect to ask nine times before their parents give in. By every measure, parents are shelling out record amounts. In the heat of this buying blitz, even parents who desperately need to say no find themselves reaching for their credit cards.
3. Today's parents aren't equipped to deal with the problem. Many of them, raised in the 1960s and '70s, swore they'd act differently from their parents and have closer relationships with their own children. Many even wear the same designer clothes as their kids and listen to the same music. And they work more hours; at the end of a long week, it's tempting to buy peace with conflict. Anxiety about the future is another factor. How do well intentioned parents say no to all the sports gear and arts and language lessons they believe will help their kids thrive in an increasingly competitive world? Experts agree : too much love won't spoil a child. Too few limits will.
4. What parents need to find, is a balance between the advantages of an affluent society and the critical life lessons that come from waiting, saving and working hard to achieve goals. That search for balance has to start early. Children need limits on their behaviour because they feel better and more secure when they live within a secured structure. Older children learn self-control by watching how others, especially their parents act. Learning how to overcome challenges is essential to becoming a successful adult. Few parents ask kids to do chores. They think their kids are already overburdened by social and academic pressures. Every individual can be of service to others, and life has meaning beyond one's own immediate happiness. That means parents eager to teach values have to take a long, hard look at their own.

A.2.1 On the basis of your understanding of the passage, answer the following questions by choosing the most appropriate option : 1×3=3

- (i) Values dear to the parents of today were ----- .  
(a) sympathy and kindness (b) Compassion and love  
(c) thrift and self-sacrifice (d) cooperation and service
- (ii) The parents of 1960s and 70s vowed that they ----- .  
(a) Would be friendly with their children (b) would give total freedom to their children  
(c) would allow them to choose their own careers  
(d) would have closer relationship with their children
- (iii) The oldest member of this Generation Excess were born in the –  
(a) Late 1980s (b) Late 1960s (c) Late 1970s (d) Late 1990s

A.2.2 Answer the following questions as briefly as possible : 1×5=5

- (i) What values do the parents and teachers want their children to learn?  
(ii) What are the consequences of giving the children too much too soon?  
(iii) What do the children who are overindulged by their parents suffer later in life?  
(iv) What do parents do to meet the demands of their children?  
(v) What is needed to be a successful adult?

A.3.3 Find words from the passage which are similar in meaning to the following : 3

- (i) a feeling of satisfaction (Para 1) (ii) Valuable (Para 3)  
(iii) a serious disagreement or argument (Para 2)

Q.3 Read the following passage carefully :

Migraines are far more common than asthma or diabetes, but less than 2 per cent of the estimated 10 million people in India who suffer from these crushing headaches seek preventive treatment. Compared to men migraines are more common in women in their forties and fifties. Some studies indicate that as many as one in four women in this age group get migraines but the number of women seeking treatment is far rarer than men. At best, they take painkillers. Most, however, just live with the pain.

Given the wide range of treatments available, they need not suffer. “Most people dismiss migraine as a tension headache that does not need treatment, even though medicines are available that can reduce the frequency and severity of attack or even help prevent an acute attack,” says an eminent physician. Even children get migraines, though these headaches are linked more to stress than any other cause.

Migraine usually begins as a dull ache in the head or neck and builds up to a throbbing pain on one side of the head. It usually lasts for several hours and the textbook symptoms include nausea, vomiting, sensitivity to light, noise or smell, neck or shoulder pain or stiffness, visual disturbances which usually precede pain in classic migraines, compulsion to yawn, dry mouth or shivering. “Classic migraines occur in just 30 per cent patients as the rest have variations in symptoms that do not conform to textbook description,” Says a senior physician. “In such cases, the doctor has to rule out other causes such as neurological disorders before reaching a diagnosis,” he adds.

These headaches are caused in part by changes in the level of a body chemical called serotonin, which affects blood vessels. When serotonin levels are high, blood vessels constrict, and when serotonin levels fall, the blood vessels dilate, causing pain. Serotonin levels are influenced by lack of sleep, tension, too much sun, some foods such as spices, red wine and chocolates (migraine triggers), or more commonly in women, by changes in the levels of a particular hormone in the body.

Prevention works best and is possible if a person is able to identify triggers and avoid them. But trigger control is not enough. Mild or even moderate headaches may be satisfactorily removed or even prevented at times by using inexpensive painkillers like aspirin, paracetamol or ibuprofen. Severe and chronic headaches, however, usually requires use of stronger medicines.

Before beginning treatment doctor recommend trying changes in lifestyle such as getting regular sleep and exercise, identifying and avoiding migraine triggers and using relaxation techniques. “Medicines to prevent migrains are recommended if avoiding triggers is not possible and migraine occurs more than twice a month or if it is severe enough to interfere with your routine,” says an eminent physician.

- (i) On the basis of your reading of the above passage, make notes in points, using abbreviations necessary. Supply a suitable title. 5  
(ii) Write a short summary in 80 words. 3

**Section – B (Writing Skills)**

- Q.4 A. K. International is looking for a receptionist for the school. Write an advertisement on behalf of the administrative officer in the classified columns of the local newspaper giving necessary details. 4  
OR  
Draft a poster on the hazards of smoking.
- Q.5 Write a letter to the Municipal Chairman of New Town North Arcot District about the dilapidated condition of a public monument requesting him to take urgent steps for the preservation of this valuable heritage. You are Anarkali / Akbar. 6  
OR  
Write a letter to the editor of a newspaper sharing your views with the readers on the problem of increasing lawlessness in our country. You are Sohan / Seema of 14-C, Sector 8, Panchkula.
- Q.6 You are Alia / Akash. You feel concerned about the young boys falling prey to drugs. Write an article in 150-200 words on the topic 'Drug Addiction'. 10  
OR  
Animals are being treated cruelly for various human needs. Write an article about it in 150-200 words. You are Neelam / Keshav.
- Q.7 Write a speech to be delivered in the morning assembly showing concern over the craze for tuition among students. You are Atira / Arun. 10  
OR  
You are asked to speak on the topic 'Disadvantages of watching television for long hours' in the morning assembly of your school. Write a speech in this regard in 150-200 words. You are Sanchita / Kapil.

**Section – C(Literature Textbooks and Long Reading Text)**

- Q.8 Read the lines given below and answer the Questions that follow : 4  
*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  
Full of sweet dreams, and health, and quiet breathing.  
Therefore, on every morrow, are we wreathing  
A flowery band to bind us to the Earth.*  
(a) How is a thing of beauty a joy for ever?  
(b) Explain : "Its loveliness increases".  
(c) What does 'a bower quiet for us' signify?  
(d) What binds us to the earth?  
OR  
*On their slag heap, these children  
Wear skins peeped through by bones and spectacles of steel  
With mended glass, like bottle bits on stones.  
All of their time and space are foggy slum.  
So blot their maps with slums as big as doom.*  
(a) Describe the two images used to describe the slum children.  
(b) Comment on the life of the slum children.  
(c) Which figure of speech is used in the above lines?  
(d) Explain : 'So blot their maps with slums as big as doom'.
- Q.9 Answer any four of the following questions in about 30-40 words each. 3×4=12  
(a) How did Hana help Dr. Sadao while he operated upon the enemy soldier?  
(b) What image does the poet use to describe the beautiful bounty of the Earth?  
(c) What did the poet see about her mother?  
(d) How did the 'bully' react when he saw Douglas vomiting?  
(e) How did the Champaran episode prove to be a turning point in Gandhiji's life?  
(f) What was the attitude of the Maharaja's minions towards him?



- Q.10 Answer the following in about 120-150 words : 6  
“Well, Mr. terror, What do you think you can do to me? It fled and I swam on”. In the light of the above statement, comment on Douglas’ determination, perseverance and endurance.  
OR  
What are the instances in the story that show that the character of the ironmaster is different from that of his daughter in many ways?
- Q.11 Answer the following in about 120-150 words : 6  
How did the Tiger king meet his end? What is ironical about his fate?  
OR  
Who was Evans? How did he manage to escape?
- Q.12 How did the horse, Wildfire, get killed? 6  
OR  
Write a note on the plot structure of the novel. (The Invisible man)
- Q.13 Godfrey has the potential to become either good or bad. Discuss. 6  
OR  
Comment on the characteristic traits of Mrs. Hall.

\*\*\*\*\*

**Half Yearly Examination 2015 – 16****Time: 3:00 Hrs.****M. M.80**

- Q.1 The partnership deed is silent on payment of salary to partners. Amita, a partner, claimed that since she managed the business, she should get a monthly salary of ₹ 10,000. Is she entitled for the salary? Give reason. 1
- Q.2 Under what circumstance will the premium for goodwill paid by the incoming partner not be recorded in the books of accounts? 1
- Q.3 Name the asset that is not transferred to the debit side of Realization account, but brings certain amount of cash against its disposal at the time of dissolution of the firm. 1
- Q.4 P, Q and R were partners in a firm sharing profits in the ratio of 5 : 4 : 3 respectively. Their capitals were ₹ 50,000, ₹ 40,000 and ₹ 30,000 respectively. State the ratio in which the goodwill of the firm, amounting to ₹ 6,00,000, will be adjusted in the capital accounts of the remaining partners on the retirement of Q. 1
- Q.5 At what rate interest on calls-in-advance is paid by the company according to Table A of Companies Act, 2013? 1
- Q.6 What is meant by Debenture? 1
- Q.7 Sargam Ltd. issued ₹ 1,00,000, 6% debentures of ₹ 10 each at a premium ₹ 2 per debenture on 1st April, 2012. The issue was fully subscribed. Interest will be paid on 30<sup>th</sup> sept. and 31<sup>st</sup> march of each financial year. Tax rate on interest 30%. Pass necessary journal entries for the year 2012 – 2013. 3
- Q.8 Maharana Ltd's main business is manufacturing of tyres. The company is very particular about the observation of the provisions of the Companies Act and SEBI guidelines. On 1st April, 2010 the company issued ₹ 18,00,000, 8% debentures of ₹ 100 each. The debentures were redeemable at a premium of 5%. On 31st March, 2013, all the debentures were redeemed. Since the manufacturing of tyres results in air pollution, the company had installed a plant for its effective control. Pass necessary journal entries for the redemption of debentures. Also identify the value observed by Maharana Ltd. It is assumed that the company has adequate balance in Debenture Redemption Reserve Account. 3
- Q.9 A business earned average profits of ₹ 6,00,000 during the last few years. The normal rate of profits in the similar type of business is 10%. The total value of assets and liabilities of the business were ₹ 22,00,000 and ₹ 5,60,000 respectively. Calculate the value of goodwill of the firm by super profit method if the goodwill is valued at 2 ½ year's purchase of super profits. 3
- Q.10 A Ltd. was registered with an authorised capital of ₹ 10,00,000 divided into equity shares of ₹ 10 each. The company invited applications for the issue of 50,000 shares. Applications for 48,000 shares were received. All calls were made and were duly received except the final call of ₹ 2 per share on 1,000 shares. All these shares were forfeited and later on re-issued at ₹ 9,000 as fully paid.  
(i) Show how —Share Capital|| will appear in the Balance Sheet of A Ltd. as per Schedule VI, Part I of the Companies Act, 1956.  
(ii) Also prepare —Notes to Accounts|| for the same. 3
- Q.11 (a) Rohan and Mohan are partners in a firm sharing profits in the ratio of 5 : 3 respectively. They admit Bhim as a partner for 1/7 share in the profit. The new profit sharing ratio will be 4 : 2 : 1. Calculate the sacrificing ratio of Rohan and Mohan.  
(b) Amla and Kamla are partners in a firm sharing profits in the ratio of 4 : 1 respectively. They admitted Bimla as a new partner for ¼ share in the profits, which she acquired wholly from Amla. Determine the new profit sharing ratio of the partners. 4
- Q.12 Raman, Ratan and Rajan were partners sharing profits in the ratio of 4 : 2 : 1 respectively. Following was their Balance Sheet as at 31st March, 2013 :

### Balance Sheet as at 31st March, 2013

Liabilities	Amount	i Assets	Amount
Capitals :		Cash	14000
Raman	60000	Stock	30000
Ratan	40000	Debtors	22000
Rajan	30000	Building	40000
Creditors	30000	Plant	53000
Bills Payable	4000	Motor van	26000
General Reserve	21000		
<b>Total</b>	<b>185000</b>	<b>Total</b>	<b>185000</b>

On the above date Raman retired and following were agreed :

(i) The assets and liabilities were valued as : Stock ₹ 24,000, Debtors ₹ 21,000, Building ₹ 45,200, Plant ₹ 50,000 and Creditors ₹ 28,000.

(ii) Amount due to Raman will be transferred to Raman's loan account.

Prepare Revaluation Account and Raman's Capital Account.

4

Q.13 A, B and C were partners in a firm. On 1st April, 2012 their capitals stood as ₹ 5,00,000; ₹ 2,50,000 and ₹ 2,50,000 respectively. As per provisions of the partnership deed :

(i) C was entitled for a salary of ₹ 5,000 per month.

(ii) A was entitled for a commission of ₹ 80,000 p.a.

(iii) Partners were entitled to interest on capital @ 6% p.a

(iv) Partners will share profits in the ratio of capitals.

Net profit for the year ended 31.03.2013 was ₹ 3,00,000 which was distributed equally, without taking into consideration the above provisions. Showing your workings clearly, pass necessary adjustment entry for the above.

6

Q.14 (a) A Ltd. purchased a running business from B Ltd. for a sum of ₹ 1,50,000 payable by issue of 10,000 equity shares of ₹ 10 each at a premium of ₹ 2 per share and balance in cash. The assets and liabilities taken over were : Plant – ₹ 40,000; Building – ₹ 40,000; Debtors – ₹ 30,000; Stock – ₹ 50,000; Furniture – ₹ 20,000; Creditors – ₹ 20,000.

You are required to pass necessary journal entries for the above transactions in the books of A Ltd.

(b) A company forfeited 1000 share of ₹.10 each, ₹. 8 called up for non payment of allotment ₹ 4 per share and first call ₹.2 per share. Out of forfeited shares company reissued 400 shares at ₹.9 per share ₹.8 called up & 300 shares at ₹.8 per share as a fully paid up. You are required to prepare share forfeited account.

3+3=6

Q.15 A, B and C are partners in a firm sharing profits in the ratio of 5 : 3 : 2 respectively. Their Balance Sheet as on 31st March, 2013 was as follows :

#### Balance Sheet as on 31st March, 2013

Liabilities	Amount	i Assets	Amount
Creditors	12000	Cash	13000
Reserves	10000	Debtors	8000
Capital		Stock	10000
A	30000	Machine	30000
B	20000	Building	20000
C	15000	Patents	6000
<b>Total</b>	<b>87000</b>	<b>Total</b>	<b>87000</b>

On 1st October, 2013, due to illness B died. It was agreed between the firm and B's executors that the amount due to B will be used for construction of a community hall in the village. As per the agreement :

i. Goodwill is to be valued at two years|| purchase of the average profits of previous five years, which were : 2009 – ₹ 10,000; 2010 – ₹ 13,000; 2011 – ₹ 12,000; 2012 – ₹ 15,000 and 2013 – ₹ 20,000.

- II. Patents were valued at ₹ 8,000; Machinery at ₹ 28,000 and Buildings at ₹ 30,000.
- III. B's share of profit till the date of his death will be calculated on the basis of profit of the year 2013. (iv) Interest on capital will be provided at 10% p.a. (v) Amount due to B's executors will be transferred to Charity account.
- (a) Prepare B's capital account to be presented to his executor and  
 (b) Identify any one value being highlighted in the question. 6

Q.16 Alfa and Beta were partners in a firm. They were trading in artificial limbs. On 1st April, 2013 they admitted Gama, a good friend of Beta into the partnership. Gama lost his one hand in an accident and Alfa and Beta decided to give one artificial hand free of cost to Gama. The Balance Sheet of Alfa and Beta as at 31st March, 2013 was as follows :

**Balance Sheet of Alfa and Beta as at 31st March, 2013**

Liabilities	Amount	i Assets	Amount
Provision for Doubtful Debts	40000	Cash	100000
Workmen's compensation Fund	56000	Debtors	800000
Outstanding Expenses	30000	Stock	200000
Creditors	300000	Machine	386000
Capital		Profit & Loss A/c	40000
Alfa 500000			
Beta 600000	1100000		
Total	1526000	Total	1526000

Gama was admitted in the firm on the following terms :

- (i) Gama will bring in ₹ 4,00,000 as his share of capital, unable to bring any amount for goodwill.  
 (ii) The new profit sharing ratio between Alfa, Beta and Gama will be 3 : 2 : 1.  
 (iii) Claim on account of workmen compensation was ₹ 30,000.  
 (iv) To write off bad debts amounted to ₹ 40,000.  
 (v) Creditors were paid ₹ 20,000 more.  
 (vi) Outstanding expenses be brought down to ₹ 12,000.  
 (vii) ₹ 20,000 be provided for an unforeseen liability.  
 (viii) Goodwill of the firm was valued at ₹ 1,80,000.

Prepare Revaluation Account, Capital Accounts of Partners and the opening Balance Sheet of the new firm. Also identify any one value which the partners wanted to communicate to the society. 8

Q.17 R Ltd. invited applications for issuing 10,000 equity shares of ₹ 100 each at a premium of ₹ 15 per share. The amount was payable as follows : On application – ₹ 20 per share, On allotment – ₹ 45 per share, On first and final call ₹ 50 per share. Applications were received for 9,500 shares and allotment was made to all the applicants. All amounts due were received except the first and final call on 700 shares. These shares were forfeited. Out of the forfeited shares, 500 shares were reissued at a payment of ₹ 32,000 fully paid up. Pass necessary journal entries in the books of the company. 8

**PART B (Financial Statements Analysis)**

- Q.18 State any one objective of analysis of financial statements. 1
- Q.19 Write any one difference between cash book and cash flow statement. 1
- Q.20 State under which major headings the following items will be presented in the Balance Sheet of a company as per revised Schedule III of the Companies Act, 2013 : 4
- |                          |                                 |
|--------------------------|---------------------------------|
| (i) Long Term borrowings | (ii) Patents                    |
| (iii) Provision for tax  | (iv) Securities Premium Reserve |

- Q.21 Following information is extracted from the Statement of Profit and Loss for the years ended 31<sup>st</sup> March, 2012 and 2013. Prepare a Comparative Statement of Profit and Loss : 4

Particulars	Note No.	31.03.2013	31.03.2014
Revenue from Operations		4000000	3200000
Employee's Benefit Expenses		1600000	2000000
Other Expenses		2,00,000	4,00,000
Tax Rate		40%	40%

- Q.22 From the following calculate the Gross Profit Ratio and Working Capital Turnover Ratio : 4

	Amount (₹)
Revenue from operations	30,00,000
Cost of Revenue from operations	20,00,000
Current Assets	6,00,000
Current Liabilities	2,00,000
Paid up share capital	5,00,000

- Q.23 Prepare a Cash Flow Statement from the following Balance Sheet :

Particulars	Note No.	31.03.2013	31.03.2012
<b>I – Equity and Liabilities :</b>			
<b>1. Shareholder's Fund :</b>			
(a) Share Capital		6,30,000	5,60,000
(b) Reserves and Surplus	1	3,08,000	1,82,000
<b>2. Current Liabilities :</b>			
Trade Payables		<u>280000</u>	<u>182000</u>
<b>Total</b>		<b><u>1218000</u></b>	<b><u>924000</u></b>
<b>II – Assets :</b>			
<b>1. Non-Current Assets :</b>			
<b>Fixed Assets :</b>			
Plant		392000	280000
<b>2. Current Assets :</b>			
(a) Inventories		98000	140000
(b) Trade Receivables		630000	420000
(c) Cash and Cash		<u>98000</u>	<u>84000</u>
Equivalents		<b><u>1218000</u></b>	<b><u>924000</u></b>

#### Notes to Accounts

Particulars	31.03.2013	31.03.2012
<b>Reserves and Surplus</b>		
Surplus (Balance in Statement of Profit and Loss)	3,08,000	1,82,000

#### Additional Information :

- (i) An old machinery having book value of ₹ 42,000 was sold for ₹ 56,000.  
(ii) Depreciation provided on machinery during the year was ₹ 28,000.