	TEST- 3 (Solution)	

Answer to Question no.1

PV of Cash Outflows:-

Project A = ₹ 7,000

Project B = 40,000 + (30,000 X 0.89) = ₹ 66,700

Project C = 50,000 + (60,000 X 0.89) = ₹ 1,03,400

Project D = 90,000 X 0.89 = ₹ 8,0100

Project E = ₹ 60,000

PV of Cash Inflows:-

Project A = (35,000 X 0.89) + (35,000 X 0.80)
        + (20,000 X 0.71) = ₹ 73,350

Project B (45,000 X 0.80) + (55,000 X 0.71) =75,050

Project C (70,000 X 0.80) + (55,000 X 0.71) = 1,12,800

Project D (55,000 X 0.80) + (65,000 X 0.71) = 90,150

Project E (20,000 X 0.89) + (40,000 X 0.80)
        + (50,000 X 0.71) = ₹85,300

NPV = PV of Cash Inflows – PV of Cash Outflows

Project A = 73,350 – 70,000 = ₹ 3,350 (Rank 1)

Project B = 75,050 – 66,700 = ₹ 8,350 (Rank 2)

Project C = 1,12,800 – 1,03,400 = ₹ 9,400 (Rank 3)

Project D = 90,150 – 80,100 = ₹ 10,050 (Rank 4)

Project E = 85,300 – 60,000 = ₹ 25,300 (Rank 5)

$$PI \frac{PV\ of\ Cash\ Inflows}{PV\ of\ Cash\ Outflows}$$

Project A = $\frac{73,350}{70,000}$ = 1.048 (Rank 5)

Project B = $\frac{75,050}{66,700}$ = 1.125 (Rank 3)

Project C = $\frac{1,12,800}{1,03,400}$ = 1.091 (Rank 4)

Project D = $\frac{90,150}{80,100}$ = 1.125 (Rank 2)

Project E = $\frac{85,300}{60,000}$ = 1.422 (Rank 1)

Project D is preferred over Project B due to the reason of higher NRV

Determination of Best Investment Mix:-

Case 1 (Divisible Investment)

We are given that total initial investment in year 0 can't exceed ₹ 1, 10,000. Therefore, the best investment combination is ascertained below:-

Project	Investment (yr.0)	PI
E	₹ 60,000	1.422
D	Nil	1.125
B	₹ 40,000	1.125
C (20%)	₹ 10,000	1.091

Case 2 (Indivisible Investment)

Option 1 [Project A + Project B]

Total Investment in Year 0

= 70,000 + 40,000 = ₹ 1,10,000

Total NPV:-

Project A	= 3,350
Project B	= 8,350
Project D	= 10,050
	21,759

Option 2 (Project C + Project E)

Total Investment in Year 0

= 50,000 + 60,000 = ₹ 1,10,000

Total NPV

Project C	= 9,400
Project E	= 25,300
Project D	= 10,050
	44,750

It is advised to select Option (2).

Answer to Question no.2

(a) Arbitrage process:-

Step 1:- The investor holds 5% eq. shares of company Y. He will dispose of his shareholding and realize 5% ₹ 4,50,000. i.e., ₹ 22,500

Step 2:- The investor will borrow ₹ 30,000 @ 10%. Hence, total available funds = 22,500 + 30,000 = ₹ 52,500

(Amount of debt = 5% of ₹ 6,00,000 = ₹ 30,000).

Step 3 :- Minimum Desired Income:-

Division earlier receiving from Company Y	₹ 4,500
Interest on loan (₹ 30,000 X 10%)	₹ 3,000
	₹ 7,500

Step 4 :- In case of company X , total market value of all the equity shares is ₹ 10,00,000 and total dividend of ₹ 1,50,000 is distributed to all the equity shareholders. In the given case, the intention of the investor is to earn dividend of ₹ 7,500 from company X. for such purpose, the investment is to be made = $\frac{10,00,000}{1,50,00}$ X 7,500 = ₹ 50,000.

We have already computed that available funds are ₹ 52,500 (Step 2). Hence, the investor can reduce his outlay by ₹ 2,500 despite maintaining the existing level of income.

(b) Venture Capital Financing may require huge amount of investment. Hence, it is advised to the venture capitalist to evaluate all the positive and negative factors before coming to any final conclusion regarding investment in the project. Following factors may be evaluated:-

(i) Level of expertise of promoters in the field of production, management and marketing.

(ii)The experience of the promoters in the related field or any other field concerning the said project.

(iii) Technical or financial viability of the new product to be introduced or new project to be launched.

(iv) Various types of risks associated with this project and the steps to be taken to overcome such risks.

(v)The exit route may also be decided with mutual consent of all the interested parties.

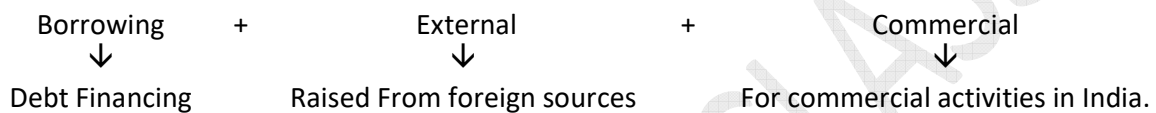**Answer to Question no.3:**

(a) E = ₹ 10 ; r = 20% ; Ke = 16%

Case 1 (D/P Ratio = 50%) (b = 0.50)

Applying Gordon's Formula:-

$$MP = \frac{E\,(1-b)}{Ke-br} = \left[\frac{₹\,10\,(1-0.50)}{(0.16)-(0.50)(0.20)}\right] = \frac{₹\,5}{0.06} = ₹\,83.33$$

Case 2 (D/P Ratio = 25%)(b = 0.75)

$$MP = \frac{E\,(1-b)}{Ke-br} = \left[\frac{₹\,10\,(1-0.75)}{(0.16)-(0.75)(0.20)}\right] = \frac{₹\,2.5}{0.01} = ₹\,250$$

(b) External Commercial Borrowings

1) **Diagrammatic Representation:-**

Borrowing + External + Commercial
 ↓   ↓   ↓

Debt Financing Raised From foreign sources For commercial activities in India.

2) When funds are raised as debt from foreign sources for commercial activities in India, it can be regarded as "External Commercial Borrowings". It is to be noted that government of India permits External Commercial Borrowings only in contest of infrastructure development or other core sectors like power, railways, and telecommunication.
3) Methods of arranging funds by ECBs:-
   (a) Bank loan
   (b) Fixed or Floating Interest Bonds.
   (c) Convertible or Non-Convertible Debentures.
   (d) Convertible Foreign Exchange Bonds.
4) Benefits to the Borrower:-
   (a) The cost of borrowed funds from foreign sources is cheaper than the debt financing form domestic sources.
   (b) It opens up the international money market in the sense that foreign investment banks and foreign collaborators may also be contracted for this purpose.
5) ECBs may be arranged by way of Automatic Route or Approval Route. Automatic Route is applicable when funds are required for infrastructure development Approval Route is applicable for other cases and approval is required to be obtained from RBI or central Government.

Answer to Question no.4:

(a) When Indian Government provides subsidy of ₹ 500 per oximeter , Mr. X will be able to make the export to Germany at lesser price of ₹ 500 per oximeter. This way, the German oximeter manufacturing industry will find themselves at disadvantage position because Indian manufactured oximeters are ₹ 500 cheaper due to grant of subsidy by Indian Government.

Therefore, the German Government may impose equivalent CCVD (Countervailing Duty) which will have the following impacts:-

(i) Price of Indian oximeter will get increased by ₹ 500 in German market

(ii)Such additional duty comes into the exchequer of German Government which they can use for their national development.

(b) **Export Related Measures**
1) **Ban of Export:** - In order to avoid the situation of shortage of goods for domestic consumption, the government may decide to impose ban on export of goods for indefinite period or such period which it deems fit.
Example:- Notified drugs and medicines, livestock and pets, human skeleton. etc.
2) **Export Taxes:-** In order to discourage the activity of export of goods, the government may decide to impose export duty on certain goods. Such export duty may be ascertained on specific rate or ad-valorem basis or any other basis. Such export duty may increase the price of the goods which are desired to be exported. Consequently, the dealer may decide to sell such goods in the local market which will also reduce the domestic price.
3) **Export subsidies and incentives**:-
   a) The objective is to promote the export of goods and make such goods as competitive in the global market.
   b) Indirect taxes paid locally on materials used for production of exported goods may be returned to the manufacturer as "Duty Drawback".
   c) Direct Tax concessions may be granted to the manufactures of exported goods.
   d) Government may also provide grants, subsidies and interest-free loans to the manufacturers of exported goods.
4) **Voluntary Export Restraints:-**
   It is a type of voluntary agreement between two countries in which the exporting country will restrict the volume of export of goods.

(c) Forward exchange rate:- It means the rate at which one currency is converted into anther currency at current rate but on future date. Suppose, Mr. A expect to receive $ 10,000 there months from now. At present 1 $ = ₹ 74 but after 3 months, it may go upto ₹ 78 or it may fall upto ₹ 70. In such a case, Mr. A has the option of entering into an agreement with Mr. B will engage himself in this transaction due to expectation of future possible gain due to exchange rate fluctuations.

(d) Depreciation in Foreign Exchange Rate:-
   (i) It means decrease in local currency value on account of increase in foreign exchange rate. Suppose, USD, at present is ₹ 74 which means that ₹ 74 is to be sacrificed for obtaining 1 $. Now , if it rises to ₹ 76, then more local currency will have to be sacrificed for obtaining 1 $.
   (ii) It is applicable in case of Flexible exchange rate Regimes where forex rate is decide by market forces of demand and supply.
   (iii) It may happen due to the reason of increase in demand for foreign currency with supply remaining constant.
   (iv) It may also happen due to the reason of decrease in supply of foreign currency with demand remaining constant.

Answer to Question no.5:
(a) **Income Method**
1) Within the domestic territory of a country, it is always advised to classify following parameters of factor income:-
   (a) Rent [It includes actual rent & imputed rent]
   (b) Wages [It means the compensation received (in cash or in kind) by employees from employer and it also includes the contribution made by the employer towards security schemes for welfare of employees].
   (c) Interest [It means the compensation received by the lender of the funds].

(d) Profit [It means the residual income which an entrepreneur earns after absorbing all business-related expenses. It is applied for the purposes for payment of Income-tax and Dividend & balance to be kept as Retained Earnings]

2) Computation Procedure:-

NDP_{FC} = Rent + Wages + Interest + Profit
+ Mixed Income of self-employed.

NNP_{FC} = NDP_{FC} + NFIA.

3) While computing the national income, core must be taken to include "Mixed Income of Self Employed" in case of the individuals providing labour and capital-oriented services in mixed form and it is not possible to differentiate between such labour and capital-oriented services, e.g., C.A. , Doctors, etc.

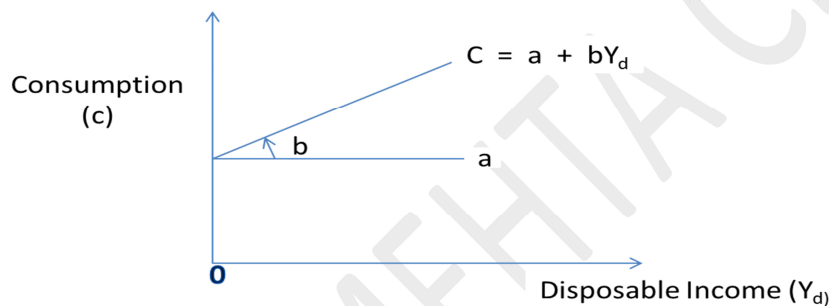4) The aggregate of rent, interest and profit can be regarded as "Operating Surplus".

(b) Consumption Function:- It expresses the relationship between consumption expenditure and disposal income in the following manner

$C = a + b\,Y_d$

Y_d = Disposal Income

a = Minimum expenditure at zero disposable income.

b = MPC (Marginal Propensity to Consume).

(c) Gross Domestic Capital Formation:- It means the expenditure incurred in connection with acquisition of "Investment Goods" and it includes the following:-

(i) Expenditure incurred by households on acquisition of valuables like Jewellery , Vehicles, etc.

(ii) Expenditure incurred by producing units in connection with acquisition of machinery , plant or other assets which are to be used for business purposes.

(iii) Own Account production of machinery, plant or other assets by the producing units.

(d) (i) Money value of output = 1,00,000 units @ ₹ 12 = ₹ 12,00,000.

(ii) Money Income of households = Money Value Output = ₹ 12,00,000.

(iii) Total spendings by households = 75% of ₹ 12,00,000 = ₹ 9,00,000

(iv) Total money received back by the business sector
= Total spendings by the households = ₹ 9,00,000

(v) Business sector initially made payment of ₹ 12,00,000

(vi) But received back only ₹ 9,00,000. It means that there is 25% unsold inventory and the producers will be compelled to produce lesser quantity in future.