Q. 1. (a) State whether the following statements are True or False : [1×5=5]

(i) Divestitures represent the sale of a part of a total undertaking.
(ii) In a reverse merger a smaller company acquires a larger company.
(iii) Stock Dividends and Stock Splits may increase the stock price but not the value of the business.
(iv) Under discounted cash flow model of asset valuation, estimated cash flows during life of the asset are not required.
(v) Buying the units of mutual funds is an indirect investment.

(b) Fill in the blanks by using words/phrases given in the brackets : [1×10=10]

(i) In case of Deep Discount Bond, the issue price is always _________ the face value. (less than/more than)
(ii) While valuing the leasehold land of a company, one _________ subject it to amortization. (should/should not)
(iii) Market value per share is expected to be _________ than the book value per share in case of profitable and growing firms. (higher/lower)
(iv) The risk in holding a government bond is _________ the risk associated with a debenture issued by a company. (more than/less than)
(v) The risk that the cash flows will not be delivered is called _________ (liquidity risk/default risk)
(vi) A ratio between the market value of a company to the replacement value of its assets is known as _________ Ratio (Market value to Book value/Market value to Replacement value/Tobin’s Q/Price to Book value).
Suggested Answers to Question — BVM

(vii) The cost of a patent should be amortised over the legal life or the useful life, whichever is ________ (shorter/longer)

(viii) In a debt for equity swap, a firm replacing equity with debt ________ its leverage ratio. (increases/decreases)

(ix) Specific risk of a firm is also called as ________ risk. (systematic/non-systematic)

(x) Revaluation of assets is undertaken to attract investors by indicating to them ________ value of the asset. (current/future)

(c) In each of the questions given below one out of the four options is correct. Indicate the correct answer: [2×5=10]

(i) Estimated fair value of an asset is based on the __________ value of operating cash flows.
   (a) current
   (b) discounted
   (c) future
   (d) none of these

(ii) A theory that explains why the total value from the combination resulted from a merger is greater than the sum of the value of the component companies operating independently is known as __________ theory.
   (a) hubris
   (b) agency
   (c) operating
   (d) synergy

(iii) A firm’s current assets and current liabilities are 1600 and 1000 respectively. How much can it borrow on a short-term basis without reducing the current ratio below 1.25?
   (a) ₹ 1,000
   (b) ₹ 1,200
   (c) ₹ 1,400
   (d) ₹ 1,600

(iv) Identify which of the following is not a financial liability
   (a) X Ltd. has 1 lakh ₹ 10 ordinary shares issued
   (b) X Ltd. has 1 lakh 8% ₹ 10 redeemable preference shares issued
   (c) X Ltd. has ₹ 2,00,000 of 6% bonds issued
   (d) Both (a) and (b)

(v) RICO LTD has PAT of ₹ 40.20 lakh with extra ordinary income of ₹ 7.00 lakh. If the cost of capital is 20% and the applicable tax rate is 40% the value of Rico Ltd will be:
   (a) ₹ 250 lakh
   (b) ₹ 180 lakh
   (c) ₹ 150 lakh
   (d) Insufficient information
Answer 1. (a)

(i) True.
Divestiture is the partial or full disposal of an investment or asset through sale, exchange, closure or bankruptcy. Divestiture can be done slowly and systematically over a long period of time, or in large lots over a short time period. For a business, divestiture is the removal of assets from the books.

(ii) True.
Reverse Merger is the acquisition of a public company by private company.

(iii) True.
A stock split increases the number of shares in a public company. The price is adjusted such that before and after, market capitalisation of company remains same. Stock dividend is payment of dividend in form of shares without increasing the market capitalisation of company.

(iv) False.
Under DCF model, present value of asset is arrived at determining the present values of all expected future cash flows from the use of the asset.

(v) True.
A mutual fund is simply a collection of stocks, bonds, another securities owned by a group of investors and managed by professional investment company.

Answer 1. (b)

(i) less than
Deep Discount Bond is a bond that sells at a significant discount from par value. Typically, a deep discount bond will have a market price of 20% or more below its face value. These bonds are perceived to be riskier than similar bonds and are thus priced accordingly.

(ii) should
Leasehold is a form of land tenure or property tenure where one party buys the right to occupy land or a building for a given length of time. The tenancy will come to an end automatically when the fixed term runs out, or, in the case of a tenancy that ends on the happening of an event, when the event occurs. The value of lease gradually decreases and should be amortised.

(iii) higher
In the context of securities, market value is often different from book value because the market takes into account future growth potential. So market value is higher in case of growing firms.

(iv) less than
Lending to a national government in the country’s own sovereign currency, government bonds, are free of credit risk, because the government can raise taxes or simply print more money to redeem the bond at maturity.

(v) default risk
To mitigate the impact of default risk, lenders often charge rates of return that correspond the debtor’s level of default risk. The higher the risk, the higher the required return, and vice versa.

(vi) Tobin’s Q
Tobin’s Q is devised by James Tobin of Yale University, Nobel laureate in economics. The Q ratio is calculated as the Market value of a company divided by the replacement value of the firms assets.
(vii) Shorter
There is tremendous uncertainty associated with assessing the value of patents. So it amortized over the shorter of the two.

(viii) Increases
The financial leverage ratio is the debt-to-equity ratio. Increase in debt will increase leverage.

(ix) non-systematic
Specific risk, as its name would imply, relates to risks that are very specific to a company or small group of companies. An example of specific risk would be news that is specific to either one stock or a small number of stocks, such as a sudden strike by the employees of a company, or a new governmental regulation affecting a particular group of companies.

(x) current
The purpose of a revaluation is to bring into the books the fair market value of fixed assets. This may be helpful in order to decide whether to invest in another business. If a company wants to sell one of its assets, it is revalued in preparation for sales negotiations.

Answer 1. (c)

(i) (b) discounted
In Discounted Cash Flow (DCF) valuation, the value of an asset is the present value of the expected cash flows on the asset.

(ii) (d) synergy
The idea that the value and performance of two companies combined will be greater than the sum of the separate individual parts is called Synergy. This term is used mostly in the context of mergers and acquisitions. For example, if Company A has an excellent product but lousy distribution whereas Company B has a great distribution system but poor products, the companies could create synergy with a merger.

(iii) (b) ₹ 1400
Amount of borrowing be x. (Current Asset will increase because borrowing will increase the cash amount)
\[ \frac{1600 + x}{1000 + x} = 1.25 \]
or, \[ x = 1400. \]

(iv) (a) X Ltd. has 1 lakh ₹ 10 ordinary shares issued
A share is an indivisible unit of capital, expressing the proprietary relationship between the company and the shareholder.

(v) (b) ₹ 180 Lakh
PAT — ₹ 40.20 Lakh
Extraordinary income = ₹ 7 lac
Tax @ 40% = ₹ 2.8
PAT of Extraordinary income = ₹ 4.2 lac
PAT excluding extra ordinary income = ₹ 40.2 lac – ₹ 4.2 lac
= ₹ 36 lac

Cost of capital = 20%

Value of firm = \( \frac{36}{0.20} \) lac = 180 lac.


(b) Why do Companies want to measure intellectual capital? [5]

(c) Discuss Synergy with reference to merger. [5]

Answer 2. (a)

Major reasons of failure of Mergers are as follows:

- Flawed corporate strategy for either or both companies.
- One company sugarcoats the truth, the other buys a Power Point pitch.
- Sub-optimum integration strategy for the situation.
- Cultural misfit, loss of key employees after retention agreements are up.
- Acquiring company's management team inexperienced at M&A.
- Flawed assumptions in synergies calculation.
- Ineffective corporate governance, plain and simple.
- Two desperate companies merge to form one big desperate company.
- An impulse buy or panic sell gets shoved down the board's throat.

Answer 2. (b)

There are a number of reasons why firms want to measure IC and the predominant reason has been for strategic or internal management purposes. Specifically, the reasons include:

(i) Alignment of IC resources with strategic vision. To support the implementation of a specific strategy via a general upgrading of the work with the companies' human resources (support and maintain a strategy concerning the composition of staff as regards seniority, professional qualifications and age. Through the description of the staff profile, measuring, discussion and adjustment become possible).

(ii) To support or maintain various parties' awareness of the company.

(iii) To help bridge the present and the past (stimulates the decentralized development of the need for constant development and attention towards change).

(iv) To influence stock prices, by making several competencies visible to current and potential customers.

(v) To make the company appear to the employees as a name providing an identity for the employees and visualizing the company in the public. Knowledge of employees and customers will stimulate the development of a set of policies to increase customer satisfaction and customer loyalty.

(vi) Assessing effectiveness of a firm's IC utilization - Allocate resources between various business units. Extract full value from acquisition and joint ventures.

(vii) Determine the most effective management incentive structures.
Answer 2. (c)

Synergy:

Synergy results from complementary activities. For example, one firm may have a substantial amount of financial resources while the other has profitable investment opportunities. Likewise, one firm may have a strong research and development team whereas the other may have a very efficiently organized production department. Similarly, one firm may have well established brands of its products but lacks marketing organization and another firm may have a very strong marketing organization. The merged business unit in all these cases will be more efficient than the individual firms. And, hence, the combined value of the merged firms is likely to be greater than the sum of the individual entities (units). Symbolically;

\[
\text{Combined value} = \text{Stand alone value of acquiring firm, } V_a + \text{Stand alone value of acquired target firm, } V_t + \text{Value of synergy, } \Delta V_{at}
\]

Normally, the value of synergy is positive and this constitutes the rationale for the merger. In valuing synergy, costs attached with acquisitions should also be taken into account. These costs primarily consist of costs of integration and payment made for the acquisition of the target firm, in excess of its value, \(V_t\). Therefore, the net gain from the merger is equal to the difference between the value of synergy and costs.

\[
\text{Net gain} = \text{Value of synergy, } \Delta V_{at} - \text{costs}
\]

Q. 3. (a) ABC LTD’s Shares are currently selling at ₹ 13 per share. There are 10,00,000 Shares outstanding. The firm is planning to raise ₹ 20 lakhs to finance a new project to be started soon at Bangalore. You are required to calculate the ex-right price of shares and the value of a right, if:

(i) The firm offers one right share for every two shares held
(ii) The firm offers one right share for every four shares held
(iii) How does the shareholder’s wealth change from (i) to (ii) above? How does right issue increase shareholder’s wealth?

(b) The following data are available for a bond:

<table>
<thead>
<tr>
<th>Face Value</th>
<th>₹ 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coupon rate</td>
<td>16%</td>
</tr>
<tr>
<td>Years to Maturity</td>
<td>6</td>
</tr>
<tr>
<td>Redemption Value</td>
<td>₹ 1,000</td>
</tr>
<tr>
<td>Yield to Maturity</td>
<td>17%</td>
</tr>
</tbody>
</table>

Calculate the current market price of the bond.

PV Factor @ 17% yearwise (1st year 0.855, 2nd year 0.730, 3rd year 0.624, 4th year 0.534, 5th year 0.456, 6th year 0.390)

Answer 3. (a)

(i) No. of shares to be issued: 5,00,000

\[
\text{Pre – right} = \frac{13,00,000 + 20,00,000}{15,00,000} = 10
\]
Subscription price \( \frac{¥20,00,000}{5,00,000} = ¥4 \)

Value of right \( \frac{10 - 4}{2} = 3 \)

(ii) Pre-right = \( \frac{130,00,000 + 20,00,000}{12,50,000} = 12 \)

Subscription price = \( \frac{20,00,000}{2,50,000} = 8 \)

Value of right = \( \frac{12 - 8}{4} = 1 \)

(iii) Since right issue is constructed in such a way so that shareholder’s Proportionate share will remain unchanged, shareholder’s wealth does not change from (i) to (ii).

Right issue increases shareholder’s wealth because the cost of issuing right shares is much lower than the cost of a public issue.

**Answer 3. (b)**

Calculation of MKT price —

\[
YTM = \frac{\text{Coupon interest} + \frac{\text{Discount or premium}}{\text{Years left}}}{\text{Face Value} + \frac{\text{MKT Value}}{2}}
\]

Let \( X \) be the market price

\[
0.17 = \frac{160 + \frac{(1000 - X)}{6}}{1000 + \frac{X}{2}}
\]

\[X = 960.26\]

Alternatively, the candidate may attempt by, 160 (PV @ 17% yearly cumulative 1 to 6 years) + 1000 (PV @ 17% in 6th year)

\[
= 160 (3.589) + 1000 (0.390)
\]

\[= 574.24 + 390\]

\[= 964.24.\]
Q. 4. X Ltd. is investigating the acquisition of Y Ltd. Y Ltd.’s balance sheet is given below:

<table>
<thead>
<tr>
<th>Y Ltd: Balance Sheet (₹ in crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Cumulative preference shares</td>
</tr>
<tr>
<td>Ordinary share capital (30 crore shares @ ₹ 10 per share)</td>
</tr>
<tr>
<td>Reserves &amp; Surplus</td>
</tr>
<tr>
<td>14% Debentures</td>
</tr>
<tr>
<td>Current Liabilities</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Net fixed assets</td>
</tr>
<tr>
<td>Investments</td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
</tr>
<tr>
<td>Stock</td>
</tr>
<tr>
<td>Book debts</td>
</tr>
<tr>
<td>Cash &amp; Bank</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

X Ltd. proposed to offer the following to Y Ltd.

(a) 10% cumulative preference shares of ₹ 100 crore in X Ltd. for paying 10% cumulative preference capital of Y Ltd.
(b) 12% convertible debentures of ₹ 84 crore in X Ltd. to redeem 14% debentures of Y Ltd.
(c) One ordinary share of X Ltd. for every three shares held by Y Ltd.’s shareholders, the market price being ₹ 42 for X Ltd.’s shares and ₹ 20 for Y Ltd.’s shares.

After acquisition, X Ltd. is expected to dispose of Y Ltd.’s stock for ₹ 150 crore, book debts for ₹ 102 crore and investments for ₹ 55 crore. It would pay entire current liabilities. What is the cost of acquisition to X Ltd.? If X Ltd.’s required rate of return is 20% how much should be the annual after-tax cash flows from Y Ltd.’s acquisition assuming a time horizon of 8 years and a zero salvage value? Would your answer change if there is a salvage value of ₹ 30 crore after 8 years?

Given, Present Value of ₹ 1 discounted @ 20% cumulative for 1 to 8 years = 3.837 and Present Value of ₹ 1 in 8th year discounted @ 20% = 0.233.
Answer 4.

Cost of Acquisition

<table>
<thead>
<tr>
<th></th>
<th>₹ Crore</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% Cumulative Preference share</td>
<td>100</td>
</tr>
<tr>
<td>12% Convertible debentures</td>
<td>84</td>
</tr>
<tr>
<td>Ordinary share capital (30/3×42)</td>
<td>420</td>
</tr>
<tr>
<td>Payment of current liabilities</td>
<td>100</td>
</tr>
<tr>
<td>Gross payment (A)</td>
<td>704</td>
</tr>
</tbody>
</table>

Less realization from

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>55</td>
</tr>
<tr>
<td>Stock</td>
<td>150</td>
</tr>
<tr>
<td>Book debts</td>
<td>102</td>
</tr>
<tr>
<td>Cash &amp; Bank</td>
<td>65</td>
</tr>
<tr>
<td>Net Cost (A-B)</td>
<td>372</td>
</tr>
</tbody>
</table>

Computation of annual after-tax cash flows.

332 = A × PVAF (0.20,8)

332 = A × 3.837 or A = ₹ 86.53 crore (Annual Cash Flows)

Computation of annual after-tax cash flows with salvage value.

332 = A × PVAF (0.20,8) + 30 × PVF (0.20,8)
332 = 3.837A + 0.233 × 30
332 = 3.837A + 6.99

A = ₹ 84.70 Crores (Annual cash flows with salvage value of ₹ 30 crore after 8 years.)

Q. 5. (a) Print plus Publishers Ltd. has been approached by another publisher Welldone Ltd. which is interested in buying the copyright of the book ‘Portfolio Management’.

To estimate the value of the copyright, the following assumptions are made:

(i) The book is to generate ₹ 1,50,000 in after-tax cash flows each year for the next three years and ₹ 1,00,000 a year for the subsequent two years. These are the flows after payment of author royalties, promotional expenses and production costs.

(ii) About 40% of these cash flows are from large organisations that place bulk orders and considered predictable and stable. The cost of capital applied to these cash flows is 7%.

(iii) The remaining 60% of the cash flows are to the general public and this segment of the cash flows is considered much more volatile. The cost of capital applied to these cash flows is 10%.

Based on the information given above, estimate the value of the copyright.

(b) What are the different methods of valuing self-generated brands?
Answer 5. (a)

The Value of the copyright can be estimated as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Stable cash flows</th>
<th>PVF @ 7% approx</th>
<th>PV @ 7% ₹</th>
<th>Volatile cash flows</th>
<th>PVF @ 10% approx</th>
<th>PV @ 10% ₹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60,000</td>
<td>0.9345</td>
<td>56,075</td>
<td>90,000</td>
<td>0.9091</td>
<td>81,818</td>
</tr>
<tr>
<td>2</td>
<td>60,000</td>
<td>0.8734</td>
<td>52,406</td>
<td>90,000</td>
<td>0.8264</td>
<td>74,380</td>
</tr>
<tr>
<td>3</td>
<td>60,000</td>
<td>0.8163</td>
<td>48,978</td>
<td>90,000</td>
<td>0.7513</td>
<td>67,619</td>
</tr>
<tr>
<td>4</td>
<td>40,000</td>
<td>0.7629</td>
<td>30,516</td>
<td>60,000</td>
<td>0.6830</td>
<td>40,981</td>
</tr>
<tr>
<td>5</td>
<td>40,000</td>
<td>0.7130</td>
<td>28,519</td>
<td>60,000</td>
<td>0.6209</td>
<td>37,255</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2,16,494</td>
<td></td>
<td></td>
<td>3,02,053</td>
</tr>
</tbody>
</table>

The Value of the copyright is

₹ 2,16,494 + 3,02,053 = ₹ 5,18,547

Answer 5. (b)

Important methods in valuation of self generated brands are discussed below:

(i) **Historical cost method**: Here Brand value is the sum total of Brand Development cost + Brand Marketing and Distribution cost + Brand Promotion cost including advertising and other cost.

(ii) **Replacement Price Model**: It is the opportunity cost of investment made for replacement of brand.

   Brand Value = Replacement Brand Cost

(iii) **Market Price Model**: Here Brand value is net realizable value on sale in the market.

(iv) **Current Cost Model**: According to this approach, the current corporate brands are valued at the current value to the group which is reviewed annually and not subject to amortization.

(v) **Potential Earning Model**: The potential Earning model is based on the estimated potential earning that would be generated by a brand and their capitalization by using appropriate discount rate. The volume of revenues raised by a brand in the market, determines its value.

Total market value of brand = Net brand revenue/capitalization rate.

Net Brand revenues = (Brand units × Unit brand price) – (Brand units × Unit brand cost) (Marketing cost + R & D cost + tax costs)

Q. 6. (a) From the following information taken from the books of Progressive Ltd. relating to staff and community benefits, prepare a statement showing value of benefits to staff and community at large, as required under Corporate Social Reporting.
Environmental Improvements 20,10,000
Medical Facilities to staff and family 45,00,000
Training Programmes conducted in-house 10,25,000
Generation of Job Opportunities in the locality 60,75,000
Municipal Taxes paid 10,70,000
Increase in cost of living in the vicinity due to a thermal power station 16,55,000
Concessional transport, water supply to staff 11,25,000
Extra work put in by company staff and officers for drought relief 18,50,000
Leave encashment and leave travel benefits 52,00,000
Educational facilities for children of staff members 21,60,000
Subsidised canteen facilities on premises 14,40,000
Generation of business in the district 25,00,000

\[(b)\] You have been provided the following financial data pertaining to RITZ LTD, an Engineering company.

<table>
<thead>
<tr>
<th>Year ended March 31</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before Interest and Tax (₹ million)</td>
<td>3396</td>
<td>2310</td>
<td>1785</td>
</tr>
<tr>
<td>Non-branded Income (₹ million)</td>
<td>335</td>
<td>125</td>
<td>112</td>
</tr>
<tr>
<td>Inflation factor</td>
<td>1.000</td>
<td>1.064</td>
<td>1.132</td>
</tr>
<tr>
<td>Weightage factor</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Average Capital Employed (ACE) (₹ million)</td>
<td>6550</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remuneration to Capital (8% of Avg. Capital employed)</td>
<td>8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Tax rate</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Multiple Applied</td>
<td>23.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You are required to calculate the BRAND VALUATION of RITZ LTD.

**Answer 6. (a)**

**Progressive Ltd.**

**Statement relating to staff and community benefits**

1. Social Benefits and Cost to Staff
   
   **A. Social Benefits to Staff**
   
   1. Medical facilities 45,00,000
   2. Training programmes 10,25,000
   3. Concessional transport, water supply 11,25,000
   4. Leave encashment and leave travel benefits 52,00,000
   5. Educational facility for children of staff members 21,60,000
   6. Subsidised canteen facilities 14,40,000

   **Total 1,54,50,000**
Suggested Answers to Question — BVM

B. Social Cost to Staff
- Extra work put in by staff and officers for drought relief: 18,50,000
- Net Social Benefits to Staff (A–B): 1,36,00,000

II. Social Benefits and Cost to Community

A. Social Benefits to Community
- Environmental improvements: 20,10,000
- Generation of job opportunities: 60,75,000
- Municipal taxes: 10,70,000
- Generation of business: 25,00,000
- Total: 1,16,55,000

B. Social Costs to Community
- Increases in cost of living in the vicinity due to a thermal power station: 16,55,000
- Net Social Benefits to Community (A – B): 1,00,00,000

Answer 6. (b)

RITZ LTD.
Calculation of Brand Value (Amount in ₹ Million)

<table>
<thead>
<tr>
<th>Year ended March 31</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Before Interest and Tax</td>
<td>3396</td>
<td>2310</td>
<td>1785</td>
</tr>
<tr>
<td>Less : Non-Branded Income</td>
<td>335</td>
<td>125</td>
<td>112</td>
</tr>
<tr>
<td>Adjusted Profit before Tax</td>
<td>3061</td>
<td>2185</td>
<td>1673</td>
</tr>
<tr>
<td>Inflation factor</td>
<td>1.000</td>
<td>1.064</td>
<td>1.132</td>
</tr>
<tr>
<td>Present Value of Profits</td>
<td>3061</td>
<td>2325</td>
<td>1894</td>
</tr>
<tr>
<td>Weightage factor</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Weighted Average Profit</td>
<td>2621</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Remuneration to Capital (8% of Average Capital employed)</td>
<td>524</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand – Related Profits</td>
<td>2097</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Tax @ 35%</td>
<td>734</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Earnings</td>
<td>1363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Multiple Applied</td>
<td>23.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand Value : (₹ in million)</td>
<td>31622</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Workings: Weighted Average Profit = \( \frac{(3061 \times 3) + (2325 \times 2) + (1894 \times 1)}{3 + 2 + 1} = 2621 \).

Q. 7. (a) Discuss the major aspects and decision Rules of the Discounted Cash Flow (DCF) Model. [5]

(b) The following is provided in relation to VASUDA LTD and MASHIT LTD.
Firm Vasuda Ltd. intends to acquire firm Mashit Ltd. The market price per share of Mashit Ltd. has increased by ₹ 4 because of rumours that Mashit Ltd. might get a favourable merger offer. Vasuda Ltd. assumes that by combining the two firms it will save in costs by ₹ 20 lakh. Vasuda Ltd. has two options:
(i) Pay ₹ 70 lakhs cash for Mashit Ltd.
(ii) Offer 125000 shares of Vasuda Ltd. instead of ₹ 70 lakh to the shareholders of Mashit Ltd.
You are required to calculate:
(a) The cost of the cash offer if Mashit Ltd.’s market price reflects, only its value as a separate entity. [2]
(b) Cost of cash offer if Mashit Ltd.’s market price reflects the value of the merger announcement. [2]
(c) Apparent cost of the stock offer. [3]
(d) True cost of the stock offer. [3]

**Answer 7. (a)**
The discounted cash flow (DCF) analysis represents the net present value (NPV) of projected cash flows available to all providers of capital, net of the cash needed. The Present Value of an asset is arrived at by determining the present values of all expected future cash flows from the use of the asset. Mathematically, the discounted cash flow formula is derived from the future value formula for calculating the time value of money and compounding returns.

\[
DPV = \frac{CF_1}{(1 + r)^1} + \frac{CF_2}{(1 + r)^2} + \ldots + \frac{CF_n}{(1 + r)^n}
\]

where
- \(DPV\) is the discounted present value of the future cash flow (FV), or FV adjusted for the delay in receipt;
- \(FV\) is the nominal value of a cash flow amount in a future period;
- \(i\) is the interest rate, which reflects the cost of tying up capital and may also allow for the risk that the payment may not be received in full;
- \(d\) is the discount rate, which is \(i/(1+i)\), i.e. the interest rate expressed as a deduction at the beginning of the year instead of an addition at the end of the year;
- \(n\) is the time in years before the future cash flow occurs.
Major aspects of DCF (Discounted Cash Flow) Model are:

(i) It weights the time value of money explicitly while evaluating the Costs and benefits of a Project.

(ii) Focus is on relevant Cash inflows and outflows during the entire life of the project as against income as computed in the accrual accounting sense.

(iii) Two main variations of DCF
   (a) NPV - Net present value is the total of the present value of Cash Flows (DCF) discounted at a given rate (generally the Costs of Capital/desired rate of return).
   (b) IRR - The IRR (Internal Rate of Return) has been defined as “the maximum rate of interest that could be paid for the Capital employed over the life of an investment without loss on the Project.” It is the yield on investment.

Decision Rules of DCF Models:

(i) If NPV is greater than “0,” accept the project.

   If NPV is < 0, reject. If NPV = 0, the project may be accepted specially when non-financial Considerations are strong enough.

(ii) Rank the Projects according to their NPV’s (Net present value) and select required project as per ranking.

(iii) In case of IRR all projects where IRR > Cost of capital/required rate of return can be selected.

Answer 7. (b)

(a) Cost of the Cash offer if Mashit Ltd’s Market price reflects only its value as a Separate entity:

\[
\text{Cost} = \text{Cash Paid} - PV_m
\]
\[
= 70,00,000 - 40,00,000 = \text{Rs 30,00,000}.
\]

(b) Mashit Ltd’s Share price risen by Rs 4 because of rumours that Mashit might get a favorable merger offer, means that the market price is over stated by \(4 \times 2,00,000 = \text{Rs 8,00,000}\). Hence the true value of Mashit Ltd in \(PV_M\) is only:

\(40,00,000 - 8,00,000\) = Rs 32,00,000

In this Case, \(\text{Cost} = \text{Cash Paid} - PV_M\)

\[
= (70,00,000 - 32,00,000) = \text{Rs 38,00,000}
\]

(c) Cost of Stock Offer: \(N \times PV_M - PV_m\)

Vasuda offers 1,25,000 Shares instead of Rs 70 Lakh in Cash. Vasuda Ltd’s Share price before the deal is announced was Rs 60. If Mashit Ltd is worth Rs 40 Lakh stand alone (disregarding rumours) the Cost of the Merger will be:

\[
\text{Apparent Cost} = (1,25,000 \times 60 - 40,00,000)
\]
\[
= 75,00,000 - 40,00,000 = \text{Rs 35,00,000}.
\]
(d) The new firm will have \(6,00,000 + 1,25,000\) 
\[= 7,25,000 \text{ Shares.}\]

\[PV_{m} = \text{Gain} + (PV_{v} + PV_{w})\]
\[= 20,00,000 + (3,60,00,000 + 40,00,000)\]
\[= \text{₹} 4,20,00,000.\]

New Share Price = \(\frac{4,20,00,000}{7,25,000} = \text{₹} 57.93\)

True Cost = \((1,25,000 \times 57.93 - 40,00,000)\)
\[= (72,41,250 - 40,00,000) = \text{₹} 32,41,250\]

Q. 8. The following information is provided in relation to the acquiring Company MARKET LTD. and the Target Company TRITON LTD.

<table>
<thead>
<tr>
<th></th>
<th>MARKET LTD</th>
<th>TRITON LTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earning after Tax (₹)</td>
<td>2000 lakh</td>
<td>400 lakh</td>
</tr>
<tr>
<td>Number of shares outstanding</td>
<td>200 lakh</td>
<td>100 lakh</td>
</tr>
<tr>
<td>P/E Ratio</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

**Required :**

(a) What is the Swap Ratio in terms of current market prices? [4]
(b) What is the EPS of Market Ltd. after acquisition? [3]
(c) What is the expected Market Price per Share of Market Ltd. after acquisition assuming that P/E ratio of Market Ltd. remain unchanged? [2]
(d) Determine the Market value of the Merged Company. [2]
(e) Calculate Gain/Loss for shareholders of the two erstwhile independent companies after acquisition. [4]

**Answer 8.**

(a)  

<table>
<thead>
<tr>
<th></th>
<th>MARKET LTD</th>
<th>TRITON LTD</th>
</tr>
</thead>
<tbody>
<tr>
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<td>400 Lakh</td>
</tr>
<tr>
<td>Number of Shares (Outstanding)</td>
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<td>100 Lakh</td>
</tr>
<tr>
<td>P/E Ratio</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>EPS</td>
<td>10 (2000/200)</td>
<td>4 (400/100)</td>
</tr>
<tr>
<td>Market Price = (P/E \times EPS)</td>
<td>₹ 100</td>
<td>₹ 20</td>
</tr>
</tbody>
</table>

Therefore, swap ratio in terms of Market prices 
MPS of target Company / MPS of acquiring company. 
\(\frac{20}{100} = 0.20\)
i.e. 1 Share of Market Ltd for every 5 shares of Triton Ltd.
(b) We have a general formula given by:

\[ \text{EPS}_{\text{MT}} = \frac{(E_M + E_T)}{(S_M + S_T)} \]

Therefore, EPS of MARKET LTD after acquisition

\[ = \frac{2000 + 400}{200 + 100\times 0.20} = \frac{2400}{220} = ₹10.91 \]

(c) Expected Market Price per Share of Market Ltd with the same P/E of 10 will be

\[ = \text{EPS} \times \text{P/E} = ₹10.91 \times 10 = ₹109.10 \]

(d) Market value of the Merged company:

\[ = \text{Total number of outstanding shares} \times \text{market price} \]

\[ = (200 + 20) \text{ Lakh} \times ₹109.10 = ₹2402 \text{ Lakh} \]

(e) **CALCULATION OF GAIN/ LOSS ACCRUING TO THE SHARE HOLDERS OF BOTH COMPANIES**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Market Ltd</th>
<th>TRITON LTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of shares after acquisition</td>
<td>220 Lakh</td>
<td>200 Lakh</td>
<td>20 Lakh</td>
</tr>
<tr>
<td>Market Price after acquisition</td>
<td>₹109.10</td>
<td>₹109.10</td>
<td>₹109.10</td>
</tr>
<tr>
<td>Total Market Value after acquisition</td>
<td>₹24002 Lakh</td>
<td>₹21820 Lakh</td>
<td>₹2182 Lakh</td>
</tr>
<tr>
<td>Existing Market Value</td>
<td>₹22000 Lakh</td>
<td>₹20000 Lakh</td>
<td>₹2000 Lakh</td>
</tr>
<tr>
<td>Gain to Shareholders:</td>
<td>₹2002 Lakh</td>
<td>₹1820 Lakh</td>
<td>₹182 Lakh</td>
</tr>
</tbody>
</table>