# UNIVERSITY OF COLOMBO, SRI LANKA FACULTY OF MANAGEMENT AND FINANCE 

Bachelor of Business Administration (Semester VII) Examination - June/July, 2022
FIN 4239/BEC 4249 - Business Valuations

## Instructions.

- This paper includes Part I on Learning Management System (LMS) with Ten (10) Multiple Choice Questions (MCQ) and Part II with 03 structured questions on three (03) pages as an online and open book examination.
- Time allowed for part I is 20 minutes and Part II is one (1) hour and 40 minutes.
- Answer all three questions in Part II.
- The use of calculators is permitted.


## Part I

Ten (10) Multiple Choice Questions (MCQs) to be attempted in the Learning Management System (LMS).

$$
\text { ( } 2 \text { marks } * 10=20 \text { Marks) }
$$

## Part II

1. 

You are a team member of undergraduates working on a business valuation assignment. You are currently valuing the shares of XYZ Holding Ltd. The following information was estimated for XYZ Holding by your group members.

| Year | 2022E | $\mathbf{2 0 2 3 E}$ | $\mathbf{2 0 2 4 E}$ | $\mathbf{2 0 2 5 E}$ | $\mathbf{2 0 2 6 E}$ | $\mathbf{2 0 2 7 E}$ | $\mathbf{2 0 2 8 E}$ | $\mathbf{2 0 2 9 E}$ | $\mathbf{2 0 3 0 E}$ | $\mathbf{2 0 3 1 E}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Net <br> Operating <br> Profit or <br> Loss After <br> Tax <br> (NOPLAT) <br> (Rs. Mn) | 1,400 | 1,500 | 1,800 | 2,200 | 2,500 | 2,800 | 3,100 | 3,500 | 3,800 | 4,000 |

The Weighted Average Cost of Capital (WACC) for the firm is $15 \%$.
The Return on Invested Capital (ROIC) and growth rate forecasts are as follows;

|  | Growth | ROIC |
| :--- | :---: | :---: |
| $2022-2031$ | $6 \%$ | $12 \%$ |
| 2032 onwards | $8 \%$ | $15 \%$ |

The mid-year adjustment forecasts in 1.5 .
Balance sheet extracts as at $31 / 12 / 2021$;
Investment in non-consolidated subsidiaries - Rs. 150 Mn
Excess cash - Rs 0.5 Mn
Other non-operating assets - Rs. 2500 Mn
Long -term borrowing - Rs. 1,300 Mn
Minority Interest (MI) - Rs. 400 Mn
Common shares outstanding 150 Mn shares.

Calculate;
i. Enterprise value as at $31 / 12 / 2021$
(23 marks)
ii. Value of equity as at $31 / 12 / 2021$
(04 marks)
iii. Value per share as at $31 / 12 / 2021$
(03 marks)
(Total marks 30 marks)
02.
i. Differentiate between accounting profits and economists' profits.
(05 marks)
ii. What do you mean by "Value spread" in economist profit calculation?
(03 marks)
iii. The following information is provided to you regarding $\mathrm{ABC}(\mathrm{Pvt}) \mathrm{Ltd}$.

Capital Expenditure 1,500
Depreciation 300
Sales 10,000
Change in WC 500

If forecasted sales are Rs. 6,000, 000/=;
a. Calculate the incremental fixed capital investment
(04 marks)
b. Calculate the incremental working capital investment
iv. You have just joined an investment analyst in a well reputed firm. You are assigned with a client based to provide advice on suitable investment options. Among few companies you are currently considering for valuations, a firm has a free cash flow of Rs. $1,000 \mathrm{Mn}$ in the current year after accounting for investments but before debt repayment. The cash flows of the firm are expected to grow at $12 \%$ for the next five years and $10 \%$ thereafter. Assume that the firm's value of debt is Rs. 500 Mn and overall cost of capital is $15 \%$.
a. Calculate the value of the firm
(07 marks)
b. Calculate the value of equity.
(03 marks)
(Total marks 25 marks)
03.
i. What are 'Price Multiples'? Explain with suitable examples.
(05 marks)
ii. What is meant by "Price to Earnings Ratio"?
(04 marks)
iii. Differentiate between "Trailing and Leading" Price Earnings ratios?
(04 marks)
iv. You have currently invested in shares of Chithru Ltd. Chithru Ltd's expected revenue and expected earnings before tax for 2021 are Rs. 500 Mn and Rs. 60 Mn respectively. The firm had a book value of assets worth Rs. 250 Mn and book value of equity of Rs.100Mn. The interest expense in 2021 was Rs. 18 Mn .

The expected growth rate of the company is $8 \%$. The beta value of Chithru Ltd is 1.2 . The riskfree rate in the economy is $6 \%$ and the equity risk premium is $3 \%$. The tax rate applicable is $35 \%$.
a. Calculate the Price to Book Value (PBV) ratio for Chithru Ltd.
(06 marks)
b. Estimate the market value of equity.
(01 marks)
c. If there are 100 Mn shares currently outstanding and the intrinsic value per share is estimated to be Rs. 10.20, would your sell or retain the investments made in Chithru Ltd's shares? Comment.
(Total marks 25 marks)

## Present Value Table

$\begin{array}{lllllllllllllllllllll}1 \% & 2 \% & 3 \% & 4 \% & 5 \% & 6 \% & 7 \% & 8 \% & 9 \% & 10 \% & 11 \% & 12 \% & 13 \% & 14 \% & 15 \% & 16 \% & 17 \% & 18 \% & 19 \% & 20 \%\end{array}$ $\begin{array}{lllllllllllllllllll}0.990 & 0.980 & 0.971 & 0.962 & 0.952 & 0.943 & 0.935 & 0.926 & 0.917 & 0.909 & 0.901 & 0.893 & 0.885 & 0.877 & 0.870 & 0.862 & 0.855 & 0.847 & 0.840 \\ 0.8 & 0.833\end{array}$ $\begin{array}{llllllllllllllllllllll}0.980 & 0.961 & 0.943 & 0.925 & 0.907 & 0.890 & 0.873 & 0.857 & 0.842 & 0.826 & 0.812 & 0.797 & 0.783 & 0.769 & 0.756 & 0.743 & 0.731 & 0.718 & 0.706 & 0.694\end{array}$ $\begin{array}{llllllllllllllllllll}0.971 & 0.942 & 0.915 & 0.889 & 0.864 & 0.840 & 0.816 & 0.794 & 0.772 & 0.751 & 0.731 & 0.712 & 0.693 & 0.675 & 0.658 & 0.641 & 0.624 & 0.609 & 0.593 & 0.579\end{array}$ $\begin{array}{llllllllllllllllllll}0.961 & 0.924 & 0.888 & 0.855 & 0.823 & 0.792 & 0.763 & 0.735 & 0.708 & 0.683 & 0.659 & 0.636 & 0.613 & 0.592 & 0.572 & 0.552 & 0.534 & 0.516 & 0.499 & 0.482\end{array}$ $\begin{array}{llllllllllllllllllll}0.951 & 0.906 & 0.863 & 0.822 & 0.784 & 0.747 & 0.713 & 0.681 & 0.650 & 0.621 & 0.593 & 0.567 & 0.543 & 0.519 & 0.497 & 0.476 & 0.456 & 0.437 & 0.419 & 0.402\end{array}$ $\begin{array}{llllllllllllllllllllllll}0.942 & 0.888 & 0.837 & 0.790 & 0.746 & 0.705 & 0.666 & 0.630 & 0.596 & 0.564 & 0.535 & 0.507 & 0.480 & 0.456 & 0.432 & 0.410 & 0.390 & 0.370 & 0.352 & 0.335\end{array}$ $\begin{array}{llllllllllllllllllll}0.933 & 0.871 & 0.813 & 0.760 & 0.711 & 0.665 & 0.623 & 0.583 & 0.547 & 0.513 & 0.482 & 0.452 & 0.425 & 0.400 & 0.376 & 0.354 & 0.333 & 0.314 & 0.296 & 0.279\end{array}$ $\begin{array}{lllllllllllllllllllll}0.923 & 0.853 & 0.789 & 0.731 & 0.677 & 0.627 & 0.582 & 0.540 & 0.502 & 0.467 & 0.434 & 0.404 & 0.376 & 0.351 & 0.327 & 0.305 & 0.285 & 0.266 & 0.249 & 0.233\end{array}$ $\begin{array}{lllllllllllllllllllll}0.914 & 0.837 & 0.766 & 0.703 & 0.645 & 0.592 & 0.544 & 0.500 & 0.460 & 0.424 & 0.391 & 0.361 & 0.333 & 0.308 & 0.294 & 0.283 & 0.243 & 0.225 & 0.209 & 0.194\end{array}$ $\begin{array}{llllllllllllllllllll}0.905 & 0.820 & 0.744 & 0.176 & 0.614 & 0.558 & 0.508 & 0.463 & 0.422 & 0.386 & 0.352 & 0.322 & 0.295 & 0.270 & 0.227 & 0.227 & 0.176 & 0.191 & 0.176 & 0.162\end{array}$ $\begin{array}{llllllllllllllllllll}0.896 & 0.804 & 0.722 & 0.650 & 0.585 & 0.527 & 0.475 & 0.429 & 0.388 & 0.350 & 0.317 & 0.287 & 0.261 & 0.237 & 0.215 & 0.195 & 0.178 & 0.162 & 0.148 & 0.136\end{array}$ $\begin{array}{lllllllllllllllllll}0.887 & 0.788 & 0.701 & 0.625 & 0.557 & 0.497 & 0.444 & 0.397 & 0.356 & 0.319 & 0.286 & 0.257 & 0.231 & 0.208 & 0.187 & 0.168 & 0.152 & 0.137 & 0.124\end{array} 0.112$ $\begin{array}{llllllllllllllllllll}0.879 & 0.773 & 0.681 & 0.601 & 0.530 & 0.469 & 0.415 & 0.368 & 0.326 & 0.290 & 0.258 & 0.229 & 0.204 & 0.182 & 0.163 & 0.145 & 0.130 & 0.116 & 0.104 & 0.093\end{array}$ $\begin{array}{llllllllllllllllllll}0.870 & 0.758 & 0.661 & 0.577 & 0.506 & 0.442 & 0.388 & 0.340 & 0.299 & 0.263 & 0.232 & 0.205 & 0.181 & 0.160 & 0.141 & 0.125 & 0.111 & 0.099 & 0.088 & 0.078\end{array}$ $\begin{array}{lllllllllllllllllll}0.861 & 0.743 & 0.642 & 0.555 & 0.481 & 0.417 & 0.362 & 0.315 & 0.275 & 0.239 & 0.209 & 0.183 & 0.160 & 0.140 & 0.123 & 0.108 & 0.095 & 0.084 & 0.074 \\ 0.065\end{array}$ $\begin{array}{llllllllllllllllllll}0.853 & 0.728 & 0.623 & 0.534 & 0.458 & 0.394 & 0.339 & 0.292 & 0.252 & 0.218 & 0.188 & 0.163 & 0.141 & 0.123 & 0.107 & 0.093 & 0.081 & 0.071 & 0.062 & 0.054\end{array}$ $\begin{array}{lllllllllllllllllll}0.844 & 0.714 & 0.605 & 0.513 & 0.436 & 0.371 & 0.317 & 0.270 & 0.231 & 0.198 & 0.170 & 0.146 & 0.125 & 0.108 & 0.093 & 0.080 & 0.069 & 0.060 & 0.052\end{array} 0.045$ $\begin{array}{lllllllllllllllllllll}0.836 & 0.700 & 0.587 & 0.494 & 0.416 & 0.350 & 0.296 & 0.250 & 0.212 & 0.180 & 0.153 & 0.130 & 0.111 & 0.095 & 0.081 & 0.069 & 0.059 & 0.051 & 0.044 & 0.038\end{array}$ $\begin{array}{llllllllllllllllllll}0.828 & 0.686 & 0.570 & 0.475 & 0.396 & 0.331 & 0.277 & 0.232 & 0.194 & 0.164 & 0.138 & 0.116 & 0.098 & 0.083 & 0.070 & 0.060 & 0.051 & 0.043 & 0.037 & 0.031\end{array}$ $\begin{array}{llllllllllllllllllllllll}0.820 & 0.673 & 0.554 & 0.456 & 0.377 & 0.026 & 0.258 & 0.215 & 0.178 & 0.149 & 0.104 & 0.104 & 0.087 & 0.073 & 0.051 & 0.051 & 0.043 & 0.037 & 0.031 & 0.026\end{array}$ $\begin{array}{lllllllllllllllllllll}0.811 & 0.660 & 0.538 & 0.439 & 0.359 & 0.294 & 0.242 & 0.199 & 0.164 & 0.135 & 0.112 & 0.093 & 0.077 & 0.064 & 0.053 & 0.044 & 0.037 & 0.031 & 0.026 & 0.022\end{array}$ $\begin{array}{lllllllllllllllllllll}0.803 & 0.647 & 0.522 & 0.422 & 0.342 & 0.278 & 0.226 & 0.184 & 0.150 & 0.123 & 0.101 & 0.083 & 0.068 & 0.056 & 0.046 & 0.038 & 0.032 & 0.026 & 0.022 & 0.018\end{array}$ $\begin{array}{lllllllllllllllllllll}0.795 & 0.634 & 0.507 & 0.406 & 0.326 & 0.262 & 0.211 & 0.170 & 0.138 & 0.112 & 0.091 & 0.074 & 0.060 & 0.049 & 0.040 & 0.033 & 0.027 & 0.022 & 0.018 & 0.015\end{array}$ $\begin{array}{lllllllllllllllllllll}0.788 & 0.622 & 0.492 & 0.390 & 0.310 & 0.247 & 0.197 & 0.158 & 0.126 & 0.102 & 0.082 & 0.066 & 0.053 & 0.043 & 0.035 & 0.028 & 0.023 & 0.019 & 0.015 & 0.013\end{array}$ $\begin{array}{llllllllllllllllllllll}0.780 & 0.610 & 0.478 & 0.375 & 0.296 & 0.233 & 0.184 & 0.146 & 0.116 & 0.092 & 0.074 & 0.059 & 0.047 & 0.038 & 0.030 & 0.024 & 0.020 & 0.016 & 0.013 & 0.010\end{array}$ $\begin{array}{llllllllllllllllllll}0.772 & 0.598 & 0.464 & 0.361 & 0.281 & 0.220 & 0.172 & 0.135 & 0.106 & 0.084 & 0.066 & 0.053 & 0.042 & 0.033 & 0.026 & 0.021 & 0.017 & 0.014 & 0.011 & 0.009\end{array}$ $\begin{array}{lllllllllllllllllll}0.764 & 0.586 & 0.450 & 0.347 & 0.268 & 0.207 & 0.161 & 0.125 & 0.098 & 0.076 & 0.060 & 0.047 & 0.037 & 0.029 & 0.023 & 0.018 & 0.014 & 0.011 & 0.009\end{array} 0.007$ $\begin{array}{lllllllllllllllllll}0.757 & 0.574 & 0.437 & 0.333 & 0.255 & 0.196 & 0.150 & 0.116 & 0.090 & 0.069 & 0.054 & 0.042 & 0.033 & 0.026 & 0.020 & 0.016 & 0.012 & 0.010 & 0.008\end{array} 0.006$ $\begin{array}{llllllllllllllllllll}0.749 & 0.583 & 0.424 & 0.321 & 0.243 & 0.185 & 0.141 & 0.107 & 0.082 & 0.063 & 0.048 & 0.037 & 0.029 & 0.022 & 0.017 & 0.014 & 0.011 & 0.008 & 0.006 & 0.005\end{array}$ $\begin{array}{llllllllllllllllllll}0.742 & 0.552 & 0.412 & 0.308 & 0.231 & 0.174 & 0.231 & 0.099 & 0.005 & 0.057 & 0.044 & 0.033 & 0.026 & 0.020 & 0.015 & 0.012 & 0.009 & 0.007 & 0.005 & 0.004\end{array}$ $\begin{array}{llllllllllllllllllll}0.735 & 0.541 & 0.400 & 0.296 & 0.220 & 0.164 & 0.123 & 0.092 & 0.069 & 0.052 & 0.039 & 0.030 & 0.023 & 0.017 & 0.013 & 0.010 & 0.008 & 0.006 & 0.005 & 0.004\end{array}$ $\begin{array}{llllllllllllllllllll}0.727 & 0.531 & 0.388 & 0.285 & 0.210 & 0.155 & 0.115 & 0.085 & 0.063 & 0.047 & 0.035 & 0.027 & 0.020 & 0.015 & 0.011 & 0.009 & 0.007 & 0.005 & 0.004 & 0.003\end{array}$ $\begin{array}{lllllllllllllllllllll}0.720 & 0.520 & 0.377 & 0.274 & 0.200 & 0.146 & 0.107 & 0.079 & 0.058 & 0.043 & 0.032 & 0.024 & 0.018 & 0.013 & 0.010 & 0.007 & 0.006 & 0.004 & 0.003 & 0.002\end{array}$ $\begin{array}{llllllllllllllllllllll}0.713 & 0.510 & 0.366 & 0.264 & 0.190 & 0.138 & 0.100 & 0.073 & 0.053 & 0.039 & 0.029 & 0.021 & 0.016 & 0.012 & 0.009 & 0.006 & 0.005 & 0.004 & 0.003 & 0.002\end{array}$ $\begin{array}{llllllllllllllllllll}0.706 & 0.500 & 0.355 & 0.253 & 0.181 & 0.130 & 0.094 & 0.068 & 0.049 & 0.036 & 0.026 & 0.019 & 0.014 & 0.010 & 0.008 & 0.006 & 0.004 & 0.003 & 0.002 & 0.002\end{array}$ $\begin{array}{llllllllllllllllllllll}0.699 & 0.490 & 0.345 & 0.244 & 0.173 & 0.123 & 0.088 & 0.063 & 0.045 & 0.032 & 0.023 & 0.017 & 0.012 & 0.009 & 0.007 & 0.005 & 0.004 & 0.003 & 0.002 & 0.001\end{array}$ $\begin{array}{llllllllllllllllllll}0.692 & 0.481 & 0.335 & 0.234 & 0.164 & 0.116 & 0.082 & 0.058 & 0.041 & 0.029 & 0.021 & 0.015 & 0.011 & 0.008 & 0.006 & 0.004 & 0.003 & 0.002 & 0.002 & 0.001\end{array}$ $\begin{array}{llllllllllllllllllll}0.685 & 0.471 & 0.325 & 0.225 & 0.157 & 0.109 & 0.076 & 0.054 & 0.038 & 0.027 & 0.019 & 0.013 & 0.010 & 0.007 & 0.005 & 0.004 & 0.003 & 0.002 & 0.001 & 0.001\end{array}$ $\begin{array}{llllllllllllllllllll}0.678 & 0.462 & 0.316 & 0.217 & 0.149 & 0.103 & 0.071 & 0.050 & 0.035 & 0.024 & 0.017 & 0.012 & 0.009 & 0.006 & 0.004 & 0.003 & 0.002 & 0.002 & 0.001 & 0.001\end{array}$ $\begin{array}{llllllllllllllllllllll}0.672 & 0.453 & 0.307 & 0.206 & 0.142 & 0.097 & 0.067 & 0.046 & 0.022 & 0.022 & 0.015 & 0.001 & 0.006 & 0.005 & 0.004 & 0.003 & 0.002 & 0.001 & 0.001 & 0.001\end{array}$

