

**FINAL EXAMINATION**

**BACHELOR OF BUSINESS ADMINISTRATION (HONOURS)**  
**BACHELOR OF CORPORATE ADMINISTRATION (HONOURS)**  
**BACHELOR OF BUSINESS ADMINISTRATION (HONOURS)**  
**HUMAN RESOURCE MANAGEMENT**

|                    |                               |
|--------------------|-------------------------------|
| <b>COURSE</b>      | <b>: FINANCIAL MANAGEMENT</b> |
| <b>COURSE CODE</b> | <b>: FIN2203</b>              |
| <b>DURATION</b>    | <b>: 3 HOURS</b>              |

**INSTRUCTIONS TO CANDIDATES:**

1. This question paper consists of **FOUR (4)** questions.
2. Answer ALL questions in the Answer Booklet provided.
3. Please check to make sure that this examination pack consists of:
  - i. The Question Paper
  - ii. An Answer Booklet
  - iii. Appendix 1-5
4. Do not bring any material into the examination hall. The use of calculator is allowed.
5. Please write your answer using permanent ink.

**MYKAD/****PASSPORT NO :** \_\_\_\_\_**ID. NO. :** \_\_\_\_\_**LECTURER :** \_\_\_\_\_**SECTION :** \_\_\_\_\_

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**DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO**

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*This question paper consists of 8 printed pages including the front page.*

## QUESTION 1

Warisan Hospitality Sdn Bhd, a mid-sized hospitality group operating hotels and resorts in major tourist destinations across Malaysia, has been facing challenges following shifts in market conditions and rising operational costs. The Chief Executive Officer has tasked the financial controller, Mr. Haziq, to perform a comprehensive ratio analysis of the company's financial position and benchmark it against the industry averages.

**Warisan Hospitality Sdn Bhd**  
**Statement of Financial Position as at 31 December 2024**

|                                     | RM                    |
|-------------------------------------|-----------------------|
| Cash                                | 8,400                 |
| Short-term investments              | 31,600                |
| Trade receivables                   | 38,000                |
| Inventories                         | 22,000                |
| Property, plant and equipment       | 195,000               |
| Intangible assets                   | 5,000                 |
| <b>Total assets</b>                 | <b><u>300,000</u></b> |
| <b>Liabilities</b>                  |                       |
| Trade payable                       | 25,000                |
| Accrued expenses                    | 11,000                |
| Short term loan                     | 9,000                 |
| Long term borrowings                | 80,000                |
| Share capital                       | 140,000               |
| Retain earnings                     | 35,000                |
| <b>Total liabilities and equity</b> | <b><u>300,000</u></b> |

**Warisan Hospitality Sdn Bhd**  
**Statement of Profit or Loss and Other Comprehensive Income**  
**for the Year Ended 31 December 2024**

|                                    | RM                    |
|------------------------------------|-----------------------|
| Revenue (55% on credit)            | 600,000               |
| Less: Cost of goods sold           | (210,000)             |
| Selling & distribution expenses    | (45,000)              |
| General & administrative expenses  | (175,000)             |
| Earnings before interest and taxes | 170,000               |
| Interest                           | (20,000)              |
| Less: Taxes (25%)                  | (37,500)              |
| <b>Net profit</b>                  | <b><u>112,500</u></b> |

Below are the most recent industry average ratios:

**Industry Average Ratios**

|                      |        |                         |       |
|----------------------|--------|-------------------------|-------|
| Current ratio        | 2.5 x  | Operating profit margin | 32%   |
| Inventory turnover   | 12.0 x | Net profit margin       | 22%   |
| Debt ratio           | 30%    | Return on equity        | 70%   |
| Debt to equity ratio | 50%    | Total assets turnover   | 1.8 x |

Notes:

- i. Opening inventories as at 1 January 2024 was RM18,000.
- ii. Use Du Pont Analysis to calculate Return on Equity.
- iii. The company uses a 360-day year.

**Required:**

- a. Find the relevant ratios for Warisan Hospitality Sdn Bhd.  
(17 marks)
  - b. Based on your answer in (a), interpret the company's financial performance in 2024.  
(8 marks)
- (Total: 25 marks)

## QUESTION 2

Danau Wealth Management is selecting a stock for its fixed income balanced fund. Returns next year are expected to vary depending on the interest rate environment, with the following probabilities:

| Scenario  | Probability | Stock HS | Stock NA | Stock AS |
|-----------|-------------|----------|----------|----------|
| Rate hike | 25%         | 8%       | 10%      | 9%       |
| Rate hold | 50%         | 14%      | 12%      | 13%      |
| Rate cut  | 25%         | -8%      | -8%      | -2%      |

**Required:**

Based on the information given for each stock, calculate the following:

- a. Expected return. (6 marks)
  - b. Standard deviation. (9 marks)
  - c. Coefficient of variation. (3 marks)
  - d. If you are as rational investor, recommend which stock to invest in. (2 marks)
- (Total: 20 marks)

## QUESTION 3

Maju Hijau Packaging Sdn Bhd is a Malaysian company that produces biodegradable packaging materials for the food and beverage industry. In line with the growing demand for environmentally friendly products, the company is considering investing in a new automated production line to enhance its manufacturing capacity and improve operational efficiency.

The proposed machine is expected to support the company's long-term expansion strategy by increasing production output while reducing dependence on manual labour. The purchase price of the machine is RM1,500,000. In addition, the company will incur transportation costs of RM35,000, installation costs of RM25,000 and testing and commissioning costs of RM20,000 before the machine can be fully operational. Staff training expenses amounting to RM15,000 has been incurred before the machine is acquired. The project requires an additional investment in inventory of RM60,000. However, accounts payable are expected to increase by RM20,000, thereby reducing the net working capital requirement.

The machine is expected to have a useful life of six years and an estimated salvage value of RM120,000 at the end of its economic life. The company applies the straight-line depreciation method for fixed assets. Depreciation for this machine is RM243,333.

Management forecasts that the new production line will generate additional annual sales revenue of RM420,000. Furthermore, labour cost savings of RM70,000 and maintenance cost savings of RM30,000 are expected each year. However, the operation of the new machine will result in additional annual operating expenses of RM80,000.

Maju Hijau Packaging Sdn Bhd is subject to a corporate tax rate of 24% and uses a required rate of return of 10% when evaluating investment proposals.

**Required:**

- a. Calculate the following:
  - i. Net initial outlay.

(8 marks)
  - ii. After-tax differential cash flow.

(10 marks)
  - iii. Terminal cash flow.

(1 mark)
  - iv. Payback period.

(1 mark)
  - v. Net present value  

(4 marks)
  - vi. Internal rate of return (IRR).

(4 marks)

- b. Based on your calculations, explain whether Maju Hijau Packaging Sdn Bhd should proceed with the proposed investment.

(2 marks)

(Total: 30 marks)

## QUESTION 4

Smart Health Berhad, a leading private healthcare provider headquartered in Kuala Lumpur, is planning to finance the construction of a new specialist medical centre in Penang. The Chief Financial Officer (CFO), Ms. Aina Rahman, has been instructed by the Board of Directors to evaluate the company's cost of capital before proceeding with the investment decision.

Target capital structure:

| Source of Capital | Weight |
|-------------------|--------|
| Bonds             | 40%    |
| Preference Shares | 10%    |
| Common Stock      | 25%    |
| Retained Earnings | 25%    |

Smart Health Berhad currently has bonds outstanding with a 15 years maturity and a coupon rate of 6%. These bonds are currently trading at RM940 per bond in the market, compared to their par value of RM1,000 per bond. If the company decides to issue new bonds in the market, flotation costs of RM25 per bond will be incurred.

The company also has preference shares that pay an annual dividend of 7% on a par value of RM100. These preference shares are currently selling at RM95 per share. New preference share issues would incur flotation costs equal to 5% of the current market price.

SmartHealth Medical Group's ordinary shares are currently trading at RM45 per share. The company recently paid a dividend of RM3.60 per share, and dividends are expected to grow indefinitely at a constant rate of 6% per annum. If new ordinary shares are issued, flotation costs that will be imposed are estimated at 8% of the current market price.

Currently, the company has RM10 million in retained earnings available for reinvestment. However, the total cost of the proposed the new specialist medical centre is estimated at RM35 million. While, the corporate tax rate applicable to the company is 27%.

**Required:**

- a. Determine the cost of capital in the following:
  - i. After tax cost of debt. (10 marks)
  - ii. Preference shares. (2 marks)
  - iii. Internal equity. (3 marks)
  - iv. External equity (3 marks)

- b. Calculate the maximum capital expenditure the company can finance without issuing new equity  
(2 marks)
- c. If the company uses external equity for financing, calculate the Weighted Average Cost of Capital (WACC).  
(5 marks)
- (Total: 25 marks)

**END OF QUESTION PAPER**

1.  $CR = \frac{\text{Current assets}}{\text{Current liabilities}}$
2.  $ATR = \frac{\text{Current assets} - \text{inventory} - \text{prepayment}}{\text{Current liabilities}}$
3.  $ITR = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$
4.  $ACP = \frac{\text{Account receivables}}{\text{Annual credit sales/360 days}}$
5.  $NCA = \frac{\text{Sales}}{\text{Non-current assets}}$
6.  $TAT = \frac{\text{Sales}}{\text{Total assets}}$
7.  $GPM = \frac{\text{Gross profit}}{\text{Sales}}$
8.  $OPM = \frac{EBIT}{\text{Sales}}$
9.  $\text{Debt Equity Ratio} = \frac{\text{Total debt}}{\text{Total equity}}$
10.  $DR = \frac{\text{Total debt}}{\text{Total assets}}$
11.  $TIE = \frac{\text{Earnings before interest and tax (EBIT)}}{\text{Interest expenses}}$
12.  $NPM = \frac{\text{Net income available to common stockholders}}{\text{Sales}}$
13.  $ROA = \frac{\text{Net income available to common stockholders}}{\text{Total assets}}$
14.  $ROE = \frac{\text{Net income available to common stockholders}}{\text{Common equity}}$
15.  $\text{Payback period} = \frac{\text{Initial outlay}}{\text{Annual cash flow}}$
16.  $IRR = A + \left\{ \frac{a}{a+b} \times (B-A) \right\}$

$$17. \quad NPV = \sum_{t=1} \frac{ACF_t}{(1+i)^t} - \text{Initial outlay}$$

$$18. \quad HPR = \frac{CI + CG}{PP}$$

$$19. \quad HPR = (P_t/P_{t-1}) - 1$$

$$20. \quad \text{CAPM: ROR} = R_f + \beta(R_m - R_f)$$

$$21. \quad E_r = \sum (P \times R)$$

$$22. \quad \hat{E}_p = w_1\hat{E}_1 + w_2\hat{E}_2 + \dots + w_n\hat{E}_n$$

$$23. \quad A_r = \frac{\sum R}{N}$$

$$24. \quad \sigma = \sqrt{\sum_{i=1}^n (R_i - E_r)^2 P(R_i)}$$

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (R_i - A_R)^2}{n-1}}$$

$$25. \quad K_d = k_d(1-T)$$

$$26. \quad K_p = D / (\text{MV} - \text{other costs})$$

$$27. \quad K_e = (D_1 / \text{MV}) + g$$

$$28. \quad K_{ne} = (D_1 / \text{MV} - \text{other cost}) + g$$

| Future Value Interest Factor of \$1 per period at i% for n periods, FVIF(i,n) |        |        |        |        |        |        |        |        |        |         |         |         |         |         |         |          |          |          |          |          |  |
|-------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|--|
| Period                                                                        | 1%     | 2%     | 3%     | 4%     | 5%     | 6%     | 7%     | 8%     | 9%     | 10%     | 12%     | 14%     | 16%     | 18%     | 20%     | 21%      | 22%      | 23%      | 24%      | 25%      |  |
| 1                                                                             | 1.0100 | 1.0200 | 1.0300 | 1.0400 | 1.0500 | 1.0600 | 1.0700 | 1.0800 | 1.0900 | 1.1000  | 1.1200  | 1.1400  | 1.1600  | 1.1800  | 1.2000  | 1.2100   | 1.2200   | 1.2300   | 1.2400   | 1.2500   |  |
| 2                                                                             | 1.0201 | 1.0404 | 1.0609 | 1.0816 | 1.1025 | 1.1236 | 1.1449 | 1.1664 | 1.1881 | 1.2100  | 1.2544  | 1.2996  | 1.3456  | 1.3924  | 1.4400  | 1.4641   | 1.4884   | 1.5129   | 1.5376   | 1.5625   |  |
| 3                                                                             | 1.0303 | 1.0612 | 1.0927 | 1.1249 | 1.1576 | 1.1910 | 1.2250 | 1.2597 | 1.2950 | 1.3310  | 1.4049  | 1.4815  | 1.5609  | 1.6430  | 1.7280  | 1.7716   | 1.8158   | 1.8609   | 1.9066   | 1.9531   |  |
| 4                                                                             | 1.0406 | 1.0824 | 1.1255 | 1.1699 | 1.2155 | 1.2625 | 1.3108 | 1.3605 | 1.4116 | 1.4641  | 1.5735  | 1.6890  | 1.8106  | 1.9388  | 2.0736  | 2.1436   | 2.2153   | 2.2889   | 2.3642   | 2.4414   |  |
| 5                                                                             | 1.0510 | 1.1041 | 1.1593 | 1.2167 | 1.2763 | 1.3382 | 1.4026 | 1.4693 | 1.5386 | 1.6105  | 1.7623  | 1.9254  | 2.1003  | 2.2878  | 2.4883  | 2.5937   | 2.7027   | 2.8153   | 2.9316   | 3.0518   |  |
| 6                                                                             | 1.0615 | 1.1262 | 1.1941 | 1.2653 | 1.3401 | 1.4185 | 1.5007 | 1.5869 | 1.6771 | 1.7716  | 1.9738  | 2.1950  | 2.4364  | 2.6996  | 2.9860  | 3.1384   | 3.2973   | 3.4628   | 3.6352   | 3.8147   |  |
| 7                                                                             | 1.0721 | 1.1487 | 1.2299 | 1.3159 | 1.4071 | 1.5036 | 1.6058 | 1.7138 | 1.8280 | 1.9487  | 2.2107  | 2.5023  | 2.8262  | 3.1855  | 3.5832  | 3.7975   | 4.0227   | 4.2593   | 4.5077   | 4.7684   |  |
| 8                                                                             | 1.0829 | 1.1717 | 1.2668 | 1.3686 | 1.4775 | 1.5938 | 1.7182 | 1.8509 | 1.9926 | 2.1436  | 2.4760  | 2.8526  | 3.2784  | 3.7589  | 4.2998  | 4.5950   | 4.9077   | 5.2389   | 5.5895   | 5.9605   |  |
| 9                                                                             | 1.0937 | 1.1951 | 1.3048 | 1.4233 | 1.5513 | 1.6895 | 1.8385 | 1.9990 | 2.1719 | 2.3579  | 2.7731  | 3.2519  | 3.8030  | 4.4355  | 5.1598  | 5.5599   | 5.9874   | 6.4439   | 6.9310   | 7.4506   |  |
| 10                                                                            | 1.1046 | 1.2190 | 1.3439 | 1.4802 | 1.6289 | 1.7908 | 1.9672 | 2.1589 | 2.3674 | 2.5937  | 3.1058  | 3.7072  | 4.4114  | 5.2338  | 6.1917  | 6.7275   | 7.3046   | 7.9259   | 8.5944   | 9.3132   |  |
| 11                                                                            | 1.1157 | 1.2434 | 1.3842 | 1.5395 | 1.7103 | 1.8983 | 2.1049 | 2.3316 | 2.5804 | 2.8531  | 3.4785  | 4.2262  | 5.1173  | 6.1759  | 7.4301  | 8.1403   | 8.9117   | 9.7489   | 10.6571  | 11.6415  |  |
| 12                                                                            | 1.1268 | 1.2682 | 1.4258 | 1.6010 | 1.7959 | 2.0122 | 2.2522 | 2.5182 | 2.8127 | 3.1384  | 3.8960  | 4.8179  | 5.9360  | 7.2876  | 8.9161  | 9.8497   | 10.8722  | 11.9912  | 13.2148  | 14.5519  |  |
| 13                                                                            | 1.1381 | 1.2936 | 1.4685 | 1.6651 | 1.8856 | 2.1329 | 2.4098 | 2.7196 | 3.0658 | 3.4523  | 4.3635  | 5.4924  | 6.8858  | 8.5994  | 10.6993 | 11.9182  | 13.2641  | 14.7491  | 16.3863  | 18.1899  |  |
| 14                                                                            | 1.1495 | 1.3195 | 1.5126 | 1.7317 | 1.9799 | 2.2609 | 2.5785 | 2.9372 | 3.3417 | 3.7975  | 4.8871  | 6.2613  | 7.9875  | 10.1472 | 12.8392 | 14.4210  | 16.1822  | 18.1414  | 20.3191  | 22.7374  |  |
| 15                                                                            | 1.1610 | 1.3459 | 1.5580 | 1.8009 | 2.0789 | 2.3966 | 2.7590 | 3.1722 | 3.6425 | 4.1772  | 5.4736  | 7.1379  | 9.2655  | 11.9737 | 15.4070 | 17.4494  | 19.7423  | 22.3140  | 25.1956  | 28.4217  |  |
| 16                                                                            | 1.1726 | 1.3728 | 1.6047 | 1.8730 | 2.1829 | 2.5404 | 2.9522 | 3.4259 | 3.9703 | 4.5950  | 6.1304  | 8.1372  | 10.7480 | 14.1290 | 18.4884 | 21.1138  | 24.0856  | 27.4462  | 31.2426  | 35.5271  |  |
| 17                                                                            | 1.1843 | 1.4002 | 1.6528 | 1.9479 | 2.2920 | 2.6928 | 3.1588 | 3.7000 | 4.3276 | 5.0545  | 6.8660  | 9.2765  | 12.4677 | 16.6722 | 22.1861 | 25.5477  | 29.3844  | 33.7588  | 38.7408  | 44.4089  |  |
| 18                                                                            | 1.1961 | 1.4282 | 1.7024 | 2.0258 | 2.4066 | 2.8543 | 3.3799 | 3.9960 | 4.7171 | 5.5599  | 7.6900  | 10.5752 | 14.4625 | 19.6733 | 26.6233 | 30.9127  | 35.8490  | 41.5233  | 48.0386  | 55.5112  |  |
| 19                                                                            | 1.2081 | 1.4568 | 1.7535 | 2.1068 | 2.5270 | 3.0256 | 3.6165 | 4.3157 | 5.1417 | 6.1159  | 8.6128  | 12.0557 | 16.7765 | 23.2144 | 31.9480 | 37.4043  | 43.7358  | 51.0737  | 59.5679  | 69.3889  |  |
| 20                                                                            | 1.2202 | 1.4859 | 1.8061 | 2.1911 | 2.6533 | 3.2071 | 3.8697 | 4.6610 | 5.6044 | 6.7275  | 9.6463  | 13.7435 | 19.4608 | 27.3930 | 38.3376 | 45.2593  | 53.3576  | 62.8206  | 73.8641  | 86.7362  |  |
| 21                                                                            | 1.2324 | 1.5157 | 1.8603 | 2.2788 | 2.7860 | 3.3996 | 4.1406 | 5.0338 | 6.1088 | 7.4002  | 10.8038 | 15.6676 | 22.5745 | 32.3238 | 46.0051 | 54.7637  | 65.0963  | 77.2694  | 91.5915  | 108.4202 |  |
| 22                                                                            | 1.2447 | 1.5460 | 1.9161 | 2.3699 | 2.9253 | 3.6035 | 4.4304 | 5.4365 | 6.6586 | 8.1403  | 12.1003 | 17.8610 | 26.1864 | 38.1421 | 55.2061 | 66.2641  | 79.4175  | 95.0413  | 113.5735 | 135.5253 |  |
| 23                                                                            | 1.2572 | 1.5769 | 1.9736 | 2.4647 | 3.0715 | 3.8197 | 4.7405 | 5.8715 | 7.2579 | 8.9543  | 13.5523 | 20.3616 | 30.3762 | 45.0076 | 66.2474 | 80.1795  | 96.8894  | 116.9008 | 140.8312 | 169.4066 |  |
| 24                                                                            | 1.2697 | 1.6084 | 2.0328 | 2.5633 | 3.2251 | 4.0489 | 5.0724 | 6.3412 | 7.9111 | 9.8497  | 15.1786 | 23.2122 | 35.2364 | 53.1090 | 79.4968 | 97.0172  | 118.2050 | 143.7880 | 174.6306 | 211.7582 |  |
| 25                                                                            | 1.2824 | 1.6406 | 2.0938 | 2.6658 | 3.3864 | 4.2919 | 5.4274 | 6.8485 | 8.6231 | 10.8347 | 17.0001 | 26.4619 | 40.8742 | 62.6686 | 95.3962 | 117.3909 | 144.2101 | 176.8593 | 216.5420 | 264.6978 |  |

| Future Value Interest Factor of an (ordinary) Annuity \$1 per period at i% for n periods, FVIFA(i,n) |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |  |
|------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| Period                                                                                               | 1%      | 2%      | 3%      | 4%      | 5%      | 6%      | 7%      | 8%      | 9%      | 10%     | 12%     | 14%     | 16%     | 18%     | 20%     | 21%     | 22%     | 23%     | 24%     | 25%     |  |
| 1                                                                                                    | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  | 1.0000  |  |
| 2                                                                                                    | 2.0100  | 2.0200  | 2.0300  | 2.0400  | 2.0500  | 2.0600  | 2.0700  | 2.0800  | 2.0900  | 2.1000  | 2.1200  | 2.1400  | 2.1600  | 2.1800  | 2.2000  | 2.2100  | 2.2200  | 2.2300  | 2.2400  | 2.2500  |  |
| 3                                                                                                    | 3.0301  | 3.0604  | 3.0909  | 3.1216  | 3.1525  | 3.1836  | 3.2149  | 3.2464  | 3.2781  | 3.3100  | 3.3744  | 3.4396  | 3.5056  | 3.5724  | 3.6400  | 3.6741  | 3.7084  | 3.7429  | 3.7776  | 3.8125  |  |
| 4                                                                                                    | 4.0604  | 4.1216  | 4.1836  | 4.2465  | 4.3101  | 4.3746  | 4.4399  | 4.5061  | 4.5731  | 4.6410  | 4.7793  | 4.9211  | 5.0665  | 5.2154  | 5.3680  | 5.4457  | 5.5242  | 5.6038  | 5.6842  | 5.7656  |  |
| 5                                                                                                    | 5.1010  | 5.2040  | 5.3091  | 5.4163  | 5.5256  | 5.6371  | 5.7507  | 5.8666  | 5.9847  | 6.1051  | 6.3528  | 6.6101  | 6.8771  | 7.1542  | 7.4416  | 7.5892  | 7.7396  | 7.8926  | 8.0484  | 8.2070  |  |
| 6                                                                                                    | 6.1520  | 6.3081  | 6.4684  | 6.6330  | 6.8019  | 6.9753  | 7.1533  | 7.3359  | 7.5233  | 7.7156  | 8.1152  | 8.5355  | 8.9775  | 9.4420  | 9.9299  | 10.1830 | 10.4423 | 10.7079 | 10.9801 | 11.2588 |  |
| 7                                                                                                    | 7.2135  | 7.4343  | 7.6625  | 7.8983  | 8.1420  | 8.3938  | 8.6540  | 8.9228  | 9.2004  | 9.4872  | 10.0890 | 10.7305 | 11.4139 | 12.1415 | 12.9159 | 13.3214 | 13.7396 | 14.1708 | 14.6153 | 15.0735 |  |
| 8                                                                                                    | 8.2857  | 8.5830  | 8.8923  | 9.2142  | 9.5491  | 9.8975  | 10.2598 | 10.6366 | 11.0285 | 11.4359 | 12.2997 | 13.2328 | 14.2401 | 15.3270 | 16.4991 | 17.1189 | 17.7623 | 18.4300 | 19.1229 | 19.8419 |  |
| 9                                                                                                    | 9.3685  | 9.7546  | 10.1591 | 10.5828 | 11.0266 | 11.4913 | 11.9780 | 12.4876 | 13.0210 | 13.5795 | 14.7757 | 16.0853 | 17.5185 | 19.0859 | 20.7989 | 21.7139 | 22.6700 | 23.6690 | 24.7125 | 25.8023 |  |
| 10                                                                                                   | 10.4622 | 10.9497 | 11.4639 | 12.0061 | 12.5779 | 13.1808 | 13.8164 | 14.4866 | 15.1929 | 15.9374 | 17.5487 | 19.3373 | 21.3215 | 23.5213 | 25.9587 | 27.2738 | 28.6574 | 30.1128 | 31.6434 | 33.2529 |  |
| 11                                                                                                   | 11.5668 | 12.1687 | 12.8078 | 13.4864 | 14.2068 | 14.9716 | 15.7836 | 16.6455 | 17.5603 | 18.5312 | 20.6546 | 23.0445 | 25.7329 | 28.7551 | 32.1504 | 34.0013 | 35.9620 | 38.0388 | 40.2379 | 42.5661 |  |
| 12                                                                                                   | 12.6825 | 13.4121 | 14.1920 | 15.0258 | 15.9171 | 16.8699 | 17.8885 | 18.9771 | 20.1407 | 21.3843 | 24.1331 | 27.2707 | 30.8502 | 34.9311 | 39.5805 | 42.1416 | 44.8737 | 47.7877 | 50.8950 | 54.2077 |  |
| 13                                                                                                   | 13.8093 | 14.6803 | 15.6178 | 16.6268 | 17.7130 | 18.8821 | 20.1406 | 21.4953 | 22.9534 | 24.5227 | 28.0291 | 32.0887 | 36.7862 | 42.2187 | 48.4966 | 51.9913 | 55.7459 | 59.7788 | 64.1097 | 68.7596 |  |
| 14                                                                                                   | 14.9474 | 15.9739 | 17.0863 | 18.2919 | 19.5986 | 21.0151 | 22.5505 | 24.2149 | 26.0192 | 27.9750 | 32.3926 | 37.5811 | 43.6720 | 50.8180 | 59.1959 | 63.9095 | 69.0100 | 74.5280 | 80.4961 | 86.9495 |  |
| 15                                                                                                   | 16.0969 | 17.2934 | 18.5989 | 20.0236 | 21.5786 | 23.2760 | 25.1290 | 27.1521 | 29.3609 | 31.7725 | 37.2797 | 43.8424 | 51.6595 | 60.9653 | 72.0351 | 78.3305 | 85.1922 | 92.6694 | 100.815 | 109.687 |  |
| 16                                                                                                   | 17.2579 | 18.6393 | 20.1569 | 21.8245 | 23.6575 | 25.6725 | 27.8881 | 30.3243 | 33.0034 | 35.9497 | 42.7533 | 50.9804 | 60.9250 | 72.9390 | 87.4421 | 95.7799 | 104.935 | 114.983 | 126.011 | 138.109 |  |
| 17                                                                                                   | 18.4304 | 20.0121 | 21.7616 | 23.6975 | 25.8404 | 28.2129 | 30.8402 | 33.7502 | 36.9737 | 40.5447 | 48.8837 | 59.1176 | 71.6730 | 87.0680 | 105.931 | 116.894 | 129.020 | 142.430 | 157.253 | 173.636 |  |
| 18                                                                                                   | 19.6147 | 21.4123 | 23.4144 | 25.6454 | 28.1324 | 30.9057 | 33.9990 | 37.4502 | 41.3013 | 45.5992 | 55.7497 | 68.3941 | 84.1407 | 103.740 | 128.117 | 142.441 | 158.405 | 176.188 | 195.994 | 218.045 |  |
| 19                                                                                                   | 20.8109 | 22.8406 | 25.1169 | 27.6712 | 30.5390 | 33.7600 | 37.3790 | 41.4463 | 46.0185 | 51.1591 | 63.4397 | 78.9692 | 98.6032 | 123.414 | 154.740 | 173.354 | 194.254 | 217.712 | 244.033 | 273.556 |  |
| 20                                                                                                   | 22.0190 | 24.2974 | 26.8704 | 29.7781 | 33.0660 | 36.7856 | 40.9955 | 45.7620 | 51.1601 | 57.2750 | 72.0524 | 91.0249 | 115.380 | 146.628 | 186.688 | 210.758 | 237.989 | 268.785 | 303.601 | 342.945 |  |
| 21                                                                                                   | 23.2392 | 25.7833 | 28.6765 | 31.9692 | 35.7193 | 39.9927 | 44.8652 | 50.4229 | 56.7645 | 64.0025 | 81.6987 | 104.768 | 134.841 | 174.021 | 225.026 | 256.018 | 291.347 | 331.606 | 377.465 | 429.681 |  |
| 22                                                                                                   | 24.4716 | 27.2990 | 30.5368 | 34.2480 | 38.5052 | 43.3923 | 49.0057 | 55.4568 | 62.8733 | 71.4027 | 92.5026 | 120.436 | 157.415 | 206.345 | 271.031 | 310.781 | 356.443 | 408.875 | 469.056 | 538.101 |  |
| 23                                                                                                   | 25.7163 | 28.8450 | 32.4529 | 36.6179 | 41.4305 | 46.9958 | 53.4361 | 60.8933 | 69.5319 | 79.5430 | 104.603 | 138.297 | 183.601 | 244.487 | 326.237 | 377.045 | 435.861 | 503.917 | 582.630 | 673.626 |  |
| 24                                                                                                   | 26.9735 | 30.4219 | 34.4265 | 39.0826 | 44.5020 | 50.8156 | 58.1767 | 66.7648 | 76.7898 | 88.4973 | 118.155 | 158.659 | 213.978 | 289.494 | 392.484 | 457.225 | 532.750 | 620.817 | 723.461 | 843.033 |  |
| 25                                                                                                   | 28.2432 | 32.0303 | 36.4593 | 41.6459 | 47.7271 | 54.8645 | 63.2490 | 73.1059 | 84.7009 | 98.3471 | 133.334 | 181.871 | 249.214 | 342.603 | 471.981 | 554.242 | 650.955 | 764.605 | 898.092 | 1054.8  |  |

## APPENDIX 4

| Present Value Interest Factor of \$1 per period at i% for n periods, PVIF(i,n) |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|--------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Period                                                                         | 1%     | 2%     | 3%     | 4%     | 5%     | 6%     | 7%     | 8%     | 9%     | 10%    | 12%    | 14%    | 16%    | 18%    | 20%    | 21%    | 22%    | 23%    | 24%    | 25%    |  |
| 1                                                                              | 0.9901 | 0.9804 | 0.9709 | 0.9615 | 0.9524 | 0.9434 | 0.9346 | 0.9259 | 0.9174 | 0.9091 | 0.8929 | 0.8772 | 0.8621 | 0.8475 | 0.8333 | 0.8264 | 0.8197 | 0.8130 | 0.8065 | 0.8000 |  |
| 2                                                                              | 0.9803 | 0.9612 | 0.9426 | 0.9246 | 0.9070 | 0.8900 | 0.8734 | 0.8573 | 0.8417 | 0.8264 | 0.7972 | 0.7695 | 0.7432 | 0.7182 | 0.6944 | 0.6830 | 0.6719 | 0.6610 | 0.6504 | 0.6400 |  |
| 3                                                                              | 0.9706 | 0.9423 | 0.9151 | 0.8890 | 0.8638 | 0.8396 | 0.8163 | 0.7938 | 0.7722 | 0.7513 | 0.7118 | 0.6750 | 0.6407 | 0.6086 | 0.5787 | 0.5645 | 0.5507 | 0.5374 | 0.5245 | 0.5120 |  |
| 4                                                                              | 0.9610 | 0.9238 | 0.8885 | 0.8548 | 0.8227 | 0.7921 | 0.7629 | 0.7350 | 0.7084 | 0.6830 | 0.6355 | 0.5921 | 0.5523 | 0.5158 | 0.4823 | 0.4665 | 0.4514 | 0.4369 | 0.4230 | 0.4096 |  |
| 5                                                                              | 0.9515 | 0.9057 | 0.8626 | 0.8219 | 0.7835 | 0.7473 | 0.7130 | 0.6806 | 0.6499 | 0.6209 | 0.5674 | 0.5194 | 0.4761 | 0.4371 | 0.4019 | 0.3855 | 0.3700 | 0.3552 | 0.3411 | 0.3277 |  |
| 6                                                                              | 0.9420 | 0.8880 | 0.8375 | 0.7903 | 0.7462 | 0.7050 | 0.6663 | 0.6302 | 0.5963 | 0.5645 | 0.5066 | 0.4556 | 0.4104 | 0.3704 | 0.3349 | 0.3186 | 0.3033 | 0.2888 | 0.2751 | 0.2621 |  |
| 7                                                                              | 0.9327 | 0.8706 | 0.8131 | 0.7599 | 0.7107 | 0.6651 | 0.6227 | 0.5835 | 0.5470 | 0.5132 | 0.4523 | 0.3996 | 0.3538 | 0.3139 | 0.2791 | 0.2633 | 0.2486 | 0.2348 | 0.2218 | 0.2097 |  |
| 8                                                                              | 0.9235 | 0.8535 | 0.7894 | 0.7307 | 0.6768 | 0.6274 | 0.5820 | 0.5403 | 0.5019 | 0.4665 | 0.4039 | 0.3506 | 0.3050 | 0.2660 | 0.2326 | 0.2176 | 0.2038 | 0.1909 | 0.1789 | 0.1678 |  |
| 9                                                                              | 0.9143 | 0.8368 | 0.7664 | 0.7026 | 0.6446 | 0.5919 | 0.5439 | 0.5002 | 0.4604 | 0.4241 | 0.3606 | 0.3075 | 0.2630 | 0.2255 | 0.1938 | 0.1799 | 0.1670 | 0.1552 | 0.1443 | 0.1342 |  |
| 10                                                                             | 0.9053 | 0.8203 | 0.7441 | 0.6756 | 0.6139 | 0.5584 | 0.5083 | 0.4632 | 0.4224 | 0.3855 | 0.3220 | 0.2697 | 0.2267 | 0.1911 | 0.1615 | 0.1486 | 0.1369 | 0.1262 | 0.1164 | 0.1074 |  |
| 11                                                                             | 0.8963 | 0.8043 | 0.7224 | 0.6496 | 0.5847 | 0.5268 | 0.4751 | 0.4289 | 0.3875 | 0.3505 | 0.2875 | 0.2366 | 0.1954 | 0.1619 | 0.1346 | 0.1228 | 0.1122 | 0.1026 | 0.0938 | 0.0859 |  |
| 12                                                                             | 0.8874 | 0.7885 | 0.7014 | 0.6246 | 0.5568 | 0.4970 | 0.4440 | 0.3971 | 0.3555 | 0.3186 | 0.2567 | 0.2076 | 0.1685 | 0.1372 | 0.1122 | 0.1015 | 0.0920 | 0.0834 | 0.0757 | 0.0687 |  |
| 13                                                                             | 0.8787 | 0.7730 | 0.6810 | 0.6006 | 0.5303 | 0.4688 | 0.4150 | 0.3677 | 0.3262 | 0.2897 | 0.2292 | 0.1821 | 0.1452 | 0.1163 | 0.0935 | 0.0839 | 0.0754 | 0.0678 | 0.0610 | 0.0550 |  |
| 14                                                                             | 0.8700 | 0.7579 | 0.6611 | 0.5775 | 0.5051 | 0.4423 | 0.3878 | 0.3405 | 0.2992 | 0.2633 | 0.2046 | 0.1597 | 0.1252 | 0.0985 | 0.0779 | 0.0693 | 0.0618 | 0.0551 | 0.0492 | 0.0440 |  |
| 15                                                                             | 0.8613 | 0.7430 | 0.6419 | 0.5553 | 0.4810 | 0.4173 | 0.3624 | 0.3152 | 0.2745 | 0.2394 | 0.1827 | 0.1401 | 0.1079 | 0.0835 | 0.0649 | 0.0573 | 0.0507 | 0.0448 | 0.0397 | 0.0352 |  |
| 16                                                                             | 0.8528 | 0.7284 | 0.6232 | 0.5339 | 0.4581 | 0.3936 | 0.3387 | 0.2919 | 0.2519 | 0.2176 | 0.1631 | 0.1229 | 0.0930 | 0.0708 | 0.0541 | 0.0474 | 0.0415 | 0.0364 | 0.0320 | 0.0281 |  |
| 17                                                                             | 0.8444 | 0.7142 | 0.6050 | 0.5134 | 0.4363 | 0.3714 | 0.3166 | 0.2703 | 0.2311 | 0.1978 | 0.1456 | 0.1078 | 0.0802 | 0.0600 | 0.0451 | 0.0391 | 0.0340 | 0.0296 | 0.0258 | 0.0225 |  |
| 18                                                                             | 0.8360 | 0.7002 | 0.5874 | 0.4936 | 0.4155 | 0.3503 | 0.2959 | 0.2502 | 0.2120 | 0.1799 | 0.1300 | 0.0946 | 0.0691 | 0.0508 | 0.0376 | 0.0323 | 0.0279 | 0.0241 | 0.0208 | 0.0180 |  |
| 19                                                                             | 0.8277 | 0.6864 | 0.5703 | 0.4746 | 0.3957 | 0.3305 | 0.2765 | 0.2317 | 0.1945 | 0.1635 | 0.1161 | 0.0829 | 0.0596 | 0.0431 | 0.0313 | 0.0267 | 0.0229 | 0.0196 | 0.0168 | 0.0144 |  |
| 20                                                                             | 0.8195 | 0.6730 | 0.5537 | 0.4564 | 0.3769 | 0.3118 | 0.2584 | 0.2145 | 0.1784 | 0.1486 | 0.1037 | 0.0728 | 0.0514 | 0.0365 | 0.0261 | 0.0221 | 0.0187 | 0.0159 | 0.0135 | 0.0115 |  |
| 21                                                                             | 0.8114 | 0.6598 | 0.5375 | 0.4388 | 0.3589 | 0.2942 | 0.2415 | 0.1987 | 0.1637 | 0.1351 | 0.0926 | 0.0638 | 0.0443 | 0.0309 | 0.0217 | 0.0183 | 0.0154 | 0.0129 | 0.0109 | 0.0092 |  |
| 22                                                                             | 0.8034 | 0.6468 | 0.5219 | 0.4220 | 0.3418 | 0.2775 | 0.2257 | 0.1839 | 0.1502 | 0.1228 | 0.0826 | 0.0560 | 0.0382 | 0.0262 | 0.0181 | 0.0151 | 0.0126 | 0.0105 | 0.0088 | 0.0074 |  |
| 23                                                                             | 0.7954 | 0.6342 | 0.5067 | 0.4057 | 0.3256 | 0.2618 | 0.2109 | 0.1703 | 0.1378 | 0.1117 | 0.0738 | 0.0491 | 0.0329 | 0.0222 | 0.0151 | 0.0125 | 0.0103 | 0.0086 | 0.0071 | 0.0059 |  |
| 24                                                                             | 0.7876 | 0.6217 | 0.4919 | 0.3901 | 0.3101 | 0.2470 | 0.1971 | 0.1577 | 0.1264 | 0.1015 | 0.0659 | 0.0431 | 0.0284 | 0.0188 | 0.0126 | 0.0103 | 0.0085 | 0.0070 | 0.0057 | 0.0047 |  |
| 25                                                                             | 0.7798 | 0.6095 | 0.4776 | 0.3751 | 0.2953 | 0.2330 | 0.1842 | 0.1460 | 0.1160 | 0.0923 | 0.0588 | 0.0378 | 0.0245 | 0.0160 | 0.0105 | 0.0085 | 0.0069 | 0.0057 | 0.0046 | 0.0038 |  |

| Present Value Interest Factor of an (ordinary) Annuity \$1 per period at i% for n periods, PVIFA(i,n) |         |         |         |         |         |         |         |         |        |        |        |        |        |        |        |        |        |        |        |        |  |
|-------------------------------------------------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Period                                                                                                | 1%      | 2%      | 3%      | 4%      | 5%      | 6%      | 7%      | 8%      | 9%     | 10%    | 12%    | 14%    | 16%    | 18%    | 20%    | 21%    | 22%    | 23%    | 24%    | 25%    |  |
| 1                                                                                                     | 0.9901  | 0.9804  | 0.9709  | 0.9615  | 0.9524  | 0.9434  | 0.9346  | 0.9259  | 0.9174 | 0.9091 | 0.8929 | 0.8772 | 0.8621 | 0.8475 | 0.8333 | 0.8264 | 0.8197 | 0.8130 | 0.8065 | 0.8000 |  |
| 2                                                                                                     | 1.9704  | 1.9416  | 1.9135  | 1.8861  | 1.8594  | 1.8334  | 1.8080  | 1.7833  | 1.7591 | 1.7355 | 1.6901 | 1.6467 | 1.6052 | 1.5656 | 1.5278 | 1.5095 | 1.4915 | 1.4740 | 1.4568 | 1.4400 |  |
| 3                                                                                                     | 2.9410  | 2.8839  | 2.8286  | 2.7751  | 2.7232  | 2.6730  | 2.6243  | 2.5771  | 2.5313 | 2.4869 | 2.4018 | 2.3216 | 2.2459 | 2.1743 | 2.1065 | 2.0739 | 2.0422 | 2.0114 | 1.9813 | 1.9520 |  |
| 4                                                                                                     | 3.9020  | 3.8077  | 3.7171  | 3.6299  | 3.5460  | 3.4651  | 3.3872  | 3.3121  | 3.2397 | 3.1699 | 3.0373 | 2.9137 | 2.7982 | 2.6901 | 2.5887 | 2.5404 | 2.4936 | 2.4483 | 2.4043 | 2.3616 |  |
| 5                                                                                                     | 4.8534  | 4.7135  | 4.5797  | 4.4518  | 4.3295  | 4.2124  | 4.1002  | 3.9927  | 3.8897 | 3.7908 | 3.6048 | 3.4331 | 3.2743 | 3.1272 | 2.9906 | 2.9260 | 2.8636 | 2.8035 | 2.7454 | 2.6893 |  |
| 6                                                                                                     | 5.7955  | 5.6014  | 5.4172  | 5.2421  | 5.0757  | 4.9173  | 4.7665  | 4.6229  | 4.4859 | 4.3553 | 4.1114 | 3.8887 | 3.6847 | 3.4976 | 3.3255 | 3.2446 | 3.1669 | 3.0923 | 3.0205 | 2.9514 |  |
| 7                                                                                                     | 6.7282  | 6.4720  | 6.2303  | 6.0021  | 5.7864  | 5.5824  | 5.3893  | 5.2064  | 5.0330 | 4.8684 | 4.5638 | 4.2883 | 4.0386 | 3.8115 | 3.6046 | 3.5079 | 3.4155 | 3.3270 | 3.2423 | 3.1611 |  |
| 8                                                                                                     | 7.6517  | 7.3255  | 7.0197  | 6.7327  | 6.4632  | 6.2098  | 5.9713  | 5.7466  | 5.5348 | 5.3349 | 4.9676 | 4.6389 | 4.3436 | 4.0776 | 3.8372 | 3.7256 | 3.6193 | 3.5179 | 3.4212 | 3.3289 |  |
| 9                                                                                                     | 8.5660  | 8.1622  | 7.7861  | 7.4353  | 7.1078  | 6.8017  | 6.5152  | 6.2469  | 5.9952 | 5.7590 | 5.3282 | 4.9464 | 4.6065 | 4.3030 | 4.0310 | 3.9054 | 3.7863 | 3.6731 | 3.5655 | 3.4631 |  |
| 10                                                                                                    | 9.4713  | 8.9826  | 8.5302  | 8.1109  | 7.7217  | 7.3601  | 7.0236  | 6.7101  | 6.4177 | 6.1446 | 5.6502 | 5.2161 | 4.8332 | 4.4941 | 4.1925 | 4.0541 | 3.9232 | 3.7993 | 3.6819 | 3.5705 |  |
| 11                                                                                                    | 10.3676 | 9.7868  | 9.2526  | 8.7605  | 8.3064  | 7.8869  | 7.4987  | 7.1390  | 6.8052 | 6.4951 | 5.9377 | 5.4527 | 5.0286 | 4.6560 | 4.3271 | 4.1769 | 4.0354 | 3.9018 | 3.7757 | 3.6564 |  |
| 12                                                                                                    | 11.2551 | 10.5753 | 9.9540  | 9.3851  | 8.8633  | 8.3838  | 7.9427  | 7.5361  | 7.1607 | 6.8137 | 6.1944 | 5.6603 | 5.1971 | 4.7932 | 4.4392 | 4.2784 | 4.1274 | 3.9852 | 3.8514 | 3.7251 |  |
| 13                                                                                                    | 12.1337 | 11.3484 | 10.6350 | 9.9856  | 9.3936  | 8.8527  | 8.3577  | 7.9038  | 7.4869 | 7.1034 | 6.4235 | 5.8424 | 5.3423 | 4.9095 | 4.5327 | 4.3624 | 4.2028 | 4.0530 | 3.9124 | 3.7801 |  |
| 14                                                                                                    | 13.0037 | 12.1062 | 11.2961 | 10.5631 | 9.8986  | 9.2950  | 8.7455  | 8.2442  | 7.7862 | 7.3667 | 6.6282 | 6.0021 | 5.4675 | 5.0081 | 4.6106 | 4.4317 | 4.2646 | 4.1082 | 3.9616 | 3.8241 |  |
| 15                                                                                                    | 13.8651 | 12.8493 | 11.9379 | 11.1184 | 10.3797 | 9.7122  | 9.1079  | 8.5595  | 8.0607 | 7.6061 | 6.8109 | 6.1422 | 5.5755 | 5.0916 | 4.6755 | 4.4890 | 4.3152 | 4.1530 | 4.0013 | 3.8593 |  |
| 16                                                                                                    | 14.7179 | 13.5777 | 12.5611 | 11.6523 | 10.8378 | 10.1059 | 9.4466  | 8.8514  | 8.3126 | 7.8237 | 6.9740 | 6.2651 | 5.6685 | 5.1624 | 4.7296 | 4.5364 | 4.3567 | 4.1894 | 4.0333 | 3.8874 |  |
| 17                                                                                                    | 15.5623 | 14.2919 | 13.1661 | 12.1657 | 11.2741 | 10.4773 | 9.7632  | 9.1216  | 8.5436 | 8.0216 | 7.1196 | 6.3729 | 5.7487 | 5.2223 | 4.7746 | 4.5755 | 4.3908 | 4.2190 | 4.0591 | 3.9099 |  |
| 18                                                                                                    | 16.3983 | 14.9920 | 13.7535 | 12.6593 | 11.6896 | 10.8276 | 10.0591 | 9.3719  | 8.7556 | 8.2014 | 7.2497 | 6.4674 | 5.8178 | 5.2732 | 4.8122 | 4.6079 | 4.4187 | 4.2431 | 4.0799 | 3.9279 |  |
| 19                                                                                                    | 17.2260 | 15.6785 | 14.3238 | 13.1339 | 12.0853 | 11.1581 | 10.3356 | 9.6036  | 8.9501 | 8.3649 | 7.3658 | 6.5504 | 5.8775 | 5.3162 | 4.8435 | 4.6346 | 4.4415 | 4.2627 | 4.0967 | 3.9424 |  |
| 20                                                                                                    | 18.0456 | 16.3514 | 14.8775 | 13.5903 | 12.4622 | 11.4699 | 10.5940 | 9.8181  | 9.1285 | 8.5136 | 7.4694 | 6.6231 | 5.9288 | 5.3527 | 4.8696 | 4.6567 | 4.4603 | 4.2786 | 4.1103 | 3.9539 |  |
| 21                                                                                                    | 18.8570 | 17.0112 | 15.4150 | 14.0292 | 12.8212 | 11.7641 | 10.8355 | 10.0168 | 9.2922 | 8.6487 | 7.5620 | 6.6870 | 5.9731 | 5.3837 | 4.8913 | 4.6750 | 4.4756 | 4.2916 | 4.1212 | 3.9631 |  |
| 22                                                                                                    | 19.6604 | 17.6580 | 15.9369 | 14.4511 | 13.1630 | 12.0416 | 11.0612 | 10.2007 | 9.4424 | 8.7715 | 7.6446 | 6.7429 | 6.0113 | 5.4099 | 4.9094 | 4.6900 | 4.4882 | 4.3021 | 4.1300 | 3.9705 |  |
| 23                                                                                                    | 20.4558 | 18.2922 | 16.4436 | 14.8568 | 13.4886 | 12.3034 | 11.2722 | 10.3711 | 9.5802 | 8.8832 | 7.7184 | 6.7921 | 6.0442 | 5.4321 | 4.9245 | 4.7025 | 4.4985 | 4.3106 | 4.1371 | 3.9764 |  |
| 24                                                                                                    | 21.2434 | 18.9139 | 16.9355 | 15.2470 | 13.7986 | 12.5504 | 11.4693 | 10.5288 | 9.7066 | 8.9847 | 7.7843 | 6.8351 | 6.0726 | 5.4509 | 4.9371 | 4.7128 | 4.5070 | 4.3176 | 4.1428 | 3.9811 |  |
| 25                                                                                                    | 22.0232 | 19.5235 | 17.4131 | 15.6221 | 14.0939 | 12.7834 | 11.6536 | 10.6748 | 9.8226 | 9.0770 | 7.8431 | 6.8729 | 6.0971 | 5.4669 | 4.9476 | 4.7213 | 4.5139 | 4.3232 | 4.1474 | 3.9849 |  |

