

**INSTITUTE OF BANKERS IN MALAWI**

**ADVANCED DIPLOMA IN BANKING EXAMINATION**

**SUBJECT: FINANCIAL ECONOMICS (IOBM – AD301)**

**Date: Thursday, 17th May 2018**

**Time Allocated: 3 hours (08:00 – 11:00 Hours)**

**INSTRUCTIONS TO CANDIDATES**

1 This paper consists of **TWO** Sections, A and B.

2 Section A consists of 4 questions, each question carries 15 marks.

Answer **ALL** questions.

3 Section B consists of 4 questions, each question carries 20 marks. Answer **ANY TWO** questions.

4 You will be allowed **10 minutes** to go through the paper before the start of the examination, you may write on this paper but not in the answer book.

5 Begin each answer on a new page.

6 **Please write your examination number on each answer book used. Answer books without examination numbers will not be marked.**

7 All persons writing examinations without payment will risk expulsion from the Institute.

8 If you are caught cheating, you will be automatically disqualified in all subjects seated this semester.

9 DO NOT open this question paper until instructed to do so.

**SECTION A (60 MARKS)**

Answer **ALL** questions from this section

**QUESTION 1**

1. Discuss **three** components of compound interest rate. *(6 marks)*
2. Calculate the present value of an ordinary perpetuity of US$70 million per annum at 10 percent (effective).*(4 marks)*
3. Given a perpetuity due with a present value of US$60 million and payments of US$6 million per annum. Calculate the annual effective interest rate of the perpetuity due.*(5 marks)*

**(Total 15 marks)**

**QUESTION 2**

As a manager, you are required to make a decision on which project to undertake among the following.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Tea factory** | **Coffee Factory** | **Bread Factory** |
| Future Net Cash flow | US$ 44,200 | US$ 850,000 | US$ 550,000 |
| Initial Investment Required | US$ 250,000 | US$ 788,900 | US$ 550,000 |

You are required to find the following:

1. Net Present Value of each factory. *(4 marks)*
2. Using the answers above, find the profitability index of each factory. *(6 marks)*
3. The decision of the manager on each factory. *(5 marks)*

**(Total 15 marks)**

**QUESTION 3**

Using a Classical theory, clearly show how the economy would return to the natural level of real GDP. **(Total 15 marks)**

**QUESTION 4**

1. The following were the Free On Board prices of petroleum in Malawi for 2006 and 2007.

Table1: FOB Petroleum Prices in US$ in Malawi

|  |  |  |  |
| --- | --- | --- | --- |
| **Month** | **FOB Prices (US$/MT)** | | |
|  | **Petrol** | **Diesel** | **Paraffin** |
|  |  |  |  |
| Jan-06 | 564.83 | 484.51 | 575.50 |
| Feb-06 | 510.86 | 472.45 | 571.66 |
| Mar-06 | 579.62 | 523.46 | 582.47 |
| Apr-06 | 672.14 | 604.06 | 654.62 |
| May-06 | 704.69 | 605.59 | 653.41 |
| Jun-06 | 708.69 | 618.54 | 658.73 |
| Jul-06 | 766.05 | 623.46 | 671.67 |
| Aug-06 | 695.60 | 617.12 | 680.26 |
| Sep-06 | 535.15 | 540.25 | 610.76 |
| Oct-06 | 506.64 | 511.28 | 565.10 |
| Nov-06 | 524.65 | 505.78 | 565.28 |
| Dec-06 | 545.58 | 499.06 | 590.32 |
|  |  |  |  |
| Jan-07 | 482.08 | 469.99 | 527.40 |
| Feb-07 | 535.80 | 506.95 | 547.22 |
| Mar-07 | 613.40 | 526.11 | 570.68 |
| Apr-07 | 698.80 | 578.17 | 618.77 |
| May-07 | 753.46 | 587.77 | 626.97 |
| Jun-07 | 728.36 | 590.02 | 641.42 |
| Jul-07 | 719.99 | 618.11 | 667.00 |
| Aug-07 | 664.35 | 596.46 | 643.09 |
| Sep-07 | 698.50 | 656.60 | 694.34 |
| Oct-07 | 721.64 | 690.96 | 744.93 |
| Nov-07 | 818.80 | 778.72 | 871.65 |
| Dec-07 | 793.40 | 761.41 | 828.65 |

Calculate the following:

1. The mean price for petrol. *(5 marks)*
2. The median price for petrol. *(5 marks)*
3. List **five** importance of representing data graphically. Give any five. *(5 marks)*

**(Total 15 marks)**

**SECTION B (40 MARKS)**

Answer ANY **TWO** questions from this section

**QUESTION 5**

1. Compare and contrast current yield and adjusted current yield with clear example for each. *(10 marks)*
2. In the absence of a financial calculator and a programme, define how you would use an approximation method to define yield to maturity. *(10 marks)*

**(Total 20 marks)**

**QUESTION 6**

1. Kachala Brewery Company has been hit with some poor managerial decisions, which have necessitated the change of its Chief Executive Officer. Mr. Timberland, the new CEO, plans to expand the production of wheat, a key raw material in the production of beer. The company plans to lease wheat field for the next 20 years, over which period Kachala Brewery Company earmarks to harvest 5,000 metric tonnes every year. The current price at world market of wheat per tonne is US $300, but it is expected to increase 3% a year. The appropriate discount rate is 10%.

**Required**

Calculate the present value of the wheat that Kachala Brewery Company is expected to be harvested from the field? *(10 marks)*

1. The following are the possible returns and associated probabilities of security X:

|  |  |
| --- | --- |
| Rate of Return (%) | Probability (%) |
| 17 | 19 |
| 13 | 21 |
| 10 | 12 |
| 18 | 12 |

You are required to calculate

1. The mean return and
2. Standard deviation of security X. *(10 marks)*

**(Total 20 marks)**

**QUESTION 7**

An ice cream manufacturing company in Malawi wants to invest a new machine in order to serve its customers better, more especially during weekends. Considering that business decisions very often have to be made upon the basis of evidence from a single sample extracted from a larger population, outline the steps the company would take in testing the hypothesis in order to base your investment decisions on. (20 marks)

**(Total 20 marks)**

**QUESTION 8**

1. According to **Say's Law**, when an economy produces a certain level of real GDP, it also generates the income needed to purchase that level of real GDP. It is believed that the economy is always capable of achieving the natural level of real GDP.

**Required**

Illustrate with a diagram how an economy would move out of natural real GDP.

*(10 marks)*

1. With the aid of a diagram, explain how a country would deal with the situation in (8a) above. *(10 marks)*

**(Total 20 marks)**

**END OF EXAMINATION PAPER**