Dr. Babasaheb Ambedkar Open University
Term End Examination July – 2018

Course	**:**	**BBAIB**	**Date**	**:**	**22/7/2018**
Subject Code	**:**	**BBAIB - 105**	**Time**	**:**	**03:00pm to 6:00pm**
Subject Name	**:**	**Financial Mathematics**	**Duration**	**:**	**03 Hours**
			Max. Marks	**:**	**70**

Section A

Answer the following (Attempt any three) **(30)**

1. Find the simple interest earned in 6 years when Rs.10,000 is invested at a rate of 10% per annum. What is the total amount at the end of 6 years?
2. What is interest rate? What is called normalized ınterest rate?
3. A firm bought a machine for Rs.20,000 which is expected to be used for 5 years and then sold for Rs.2,000. What is the annual amount of depreciation if the straight line method is used?
4. What is the present value of the sum S ? What is the economic meaning of this notion?
5. A firm estimates that office equipment depreciates in value by 40% in its first year of use, by 25% of its value at the beginning of that year during its second year of use, and thereafter each year 10% of its value at the beginning of that year Calculate:
   (a) the value after eight years' of equipment costing Rs. 550 new
   (b) the value when new of equipment valued at Rs.100 after five years' of use

Section B

Answer the following (Attempt any four) **(20)**

1. Explain discounting at a normal discount rate.
2. What is the growth rate? Write the formula of continuous accumulation and discounting.
3. What is funding debt and how is it accounted for simple and compound interest?
4. The annual rate of simple interest equals 12,5% . In how many years will the original sum double?
5. What is the nominal and effective interest rate? What is the connection between the effective and nominal rates?
6. Write the accumulation formula at a variable compound discount rate

Section C

Part – A (Multiple Choice Questions) **(10)**

1 The success of a new company critically depends on

A managers B board of directors
C shareholders D venture capitalists

2 Companies go public in order to

A avoid taxes B reduce management cost
C raise more cash D get merge

3 Companies go public with the help of

A venture capital firms B underwriters

C shareholders D A, B and C

4 If beta of a stock is _____ then it tends to amplify the overall market movement

A 0 B 1

C greater than 1 D between 0 and 1

5 What is the real rate of interest if nominal rate is 10% and inflation rate is 5%?

A 4.3% B 4.8%

C 5.3% D 5.8%

6 The relationship between short and long term interest rates is called _____ of interest rates.

A yield to maturity B duration

C volatility D term structure

7 Financial managers are interested in _____ when see bond market.

A yield to maturity B duration

C volatility D term structure

8 Underwriters are also called

A bookrunner B venture capitalists

C subscribers D angel investors

9 Which from the following is not the role of an underwriter?

A They provide procedural and financial advice B They buy the issue

C They resell the issue to the public D They provide funds to the corporation

10 Risk _____ with the duration of bond.

A remains same B increases

C decreases D multiplied

Part – B (Do as Directed) (10)

1 Debt Funding
2 Annuity
3 Simple Interest
4 Simple Discount rate
5 Accumulation
6 Compounding
7 Growth Rate
8 Constant rate
9 Compound discount rate
10 Inflation rate