

**PGDM-IBM, 2018-20**  
**Elements of Actuarial Science**  
**INS-206**

**Trimester-II, End Term Examinations: December-2019**

Time Allowed : 2½ hrs.

Roll No.: \_\_\_\_\_

Marks: 50

**Instruction:** Students are required to write Roll No. on every page of the question paper. Writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. Of Questions to attempt	Marks	Total Marks
A	Minimum 3 question with internal choices and CILO (Course Intended Learning Outcome) covered	3*10	30
	Or Maximum 6 questions with internal choices and CILO covered (as an example)	6*5	
B	Compulsory Case Study with minimum of 2 questions	20	20
			<b>50</b>

**Section-A**

A1. Construct a Loan Schedule for a Loan of Rs 350,000. The Loan is to be repaid in 10 years with annual installments at 8% p.a rate of interest. (CILO1) [10]

**Or**

A1 1) Calculate the accumulated value of Rs 5000 at the end of year 2 (CILO 2)

- (a) A simple rate of interest of 8% per annum [1]  
 (b) A compound rate of interest of 7% per annum convertible quarterly [2]  
 (c) A compound rate of interest of 5% per annum convertible monthly [2]

2) Find the present value at the rate of 8% of 4 annual payments of Rs. 2000/- p.a. followed by 7 annual payments of Rs. 3500/- p.a., the first payment being made at the end of 1<sup>st</sup> year.

[5]  
(CILO1)

A2. State the risks to the life insurance company in writing the following Products

- i. Regular Premium Term Insurance [3]  
 ii. Unit Linked Protection [3]  
 iii. With Profit Savings [4]  
 [10]

**Or**

(Turnover)

A2. (i) The Largest life insurance company is selling With Profit contracts want to calculate Asset Share for distribution of surplus. How is asset share is calculated for this type of contract?

(ii) ABC Life insurance Company India Ltd is selling with-out profit endowment product List the factors the company should consider in setting the surrender value. (CILO2)

A3. ABC Life insurance Company India Ltd is selling Unit Linked endowment product which are aimed to plan for Pension needs

(i) State the options/alterations that could attach to this type of product. [5]

(ii) List the factors the company should consider in setting the surrender value [5] (CILO3)

Or

A3. Describe briefly, suitable life insurance products that might be purchased by the following customers, explaining how they meet the needs of the customer, and whether they would normally be conventional without profits, with profits or unit-linked.

(i) A recently married young couple, with both earning wants to plan for their needs of next 10 year. [3]

(ii) A financial services company that employs 5,000 people. [3]

(iii) A person with age 55 years accumulated wealth of Rs 10 Cr, ( Real State =3 Cr, Shares and MF 4 Cr other assets of 3 Cr ) . Planning to work for another 5 years. [4]

Total [10]  
(CILO3)

### Section-B

#### Case Study Compulsory:-

**Case-A :** A large insurance company, which was selling traditional term product. The sale of company's term product is reduced due to higher premium rates. Company has decided to enter in online space and offer Online Term Plan. The Company is considering to launch a new online plan through companys website and web aggregators.

i. Reason why online plans will be cheaper than offline plan? [5]

ii. Discuss that risks and whether the selling online will reduce some of its risk [5]

iii. What are the options can be introduced to make product attractive? [3]

iv. Type of expenses which may be reduced due to online Sale [3]

v. The company is evaluating to sell this plan through Super Market discuss the strategy by listing advantages and disadvantages. [4]

Total [20]

OR

(Turnover)

**Case-B :**

Company A is a life insurance company that is interested in setting up an operation in an overseas territory, which it believes has significant new business potential.

Company B is a life insurance company that operates only in this territory. It has just been put up for sale by its parent company.

- I. Outline the advantages and disadvantages to Company A of purchasing Company B rather than setting up a new operation in the overseas territory. [10]
- II. Discuss the Risks that company A if it intends to sell only Term and ULIP plans. [10]