(Please write your Exam Roll No.)   Exam Roll No. ..0536101811

END TERM EXAMINATION

FIRST SEMESTER [BBA(B&I)] DECEMBER-2011

Paper Code: BBA(B&I)105	Subject: Financial Mathematics
Time : 3 Hours	Maximum Marks :75

Note: Section-A compulsory. Attempt four questions selecting at least one from each Section. Log table and calculator will be provided on demand.

SECTION-A

Q1   Attempt **any five** of the following:-   (3x5=15)
- (a) What are the various classes of Life Insurance Risk?
- (b) Define crude and Graduated Mortality Rates.
- (c) Define Force of Mortality (U_x).
- (d) Define Net Single Premium and Net Level Premium.
- (e) What is Effective Rate?
- (f) What is Sinking Funds?

$(e^h - 1)$

SECTION-B

Q2   What annual rate of interest compounded quarterly should one obtain if he wants to double his investment in five years?   (15)

OR

Q3   Find the effective rate equivalent to the nominal rate 7% converted (or compounded) continuously. $= (e^{\cdot} - 1)$ (15)

SECTION-C

Q4   A man retires at the age of 60 years and his employer gives him pension of Rs.1200/- for the rest of his life. Reconing his expectation of life to be 13 years and that interest is at 4% per annum, what single sum is equivalent to this person?   (15)

OR

Q5   Find the amortized monthly payment necessary to pay-off a house building loan of Rs.1,50,000 at 12% per annum in 10 years. Further find the amount of loan paid after the payment of 60 installments.   (15)

SECTION-D

Q6   What are the various classes of Life Insurance Risk?   (15)

OR

Q7   What are the different types of Mortality tables? From the table given below, evaluate 3P$_{(21)+1}$ and 1/2q$_{(20)}$.   (15)

Age at entry [x]	$l_{(x)}$	$l_{(x)+1}$	$l_{(x)+2}$	Attained age x+2
20	495393	494534	493633	22
21	494480	493620	492716	23
22	493566	492702	491795	24
23	492647	491781	490868	25

SECTION-E

Q8   From the following mortality table calculate NSP and NLP ie. Net Single and level Premium in Term Insurance for five years. Assuming 3% rate of interest and Rs. 1000/- policy amount in each policy.   (15)

Age x	l_x	q_x
40	96,463	0.00283
41	96,190	0.00314
42	95,880	0.00350
43	95,552	0.00392
44	95,177	0.00439

Q9   What are the various method of Loading?   (15)

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