PROBLEM SET # 3

Each individual student will prepare and upload the submission before 11.59 PM of the deadline day in virtual classroom (Moodle). If you have doubts then you can meet Ms Aleesha Mariya (intercom 261) for clarifications. There should be around 7-9 submissions. Delay would mean non-submission and hence deduction of marks.

As your third submission, I expect you to submit the following by 02-08-2019 office hours (1730 Hrs) deadline to Ms Aleesha Maria, Block 2, Academic Associate Room.

Important Instructions:
♦ Your serial number is to be taken as your Roll Number.
♦ Wherever it is marked XXX take that figure as the last two digits of your roll number. For example, if your Roll Number were 001 then XXX would always mean 01. For example, if your Roll Number were 181 then XXX would always mean 81.
♦ **A hand written submission is required along with all the steps involved in solving the problems**

1. Ish Pahuja, does lots of puja, deposits Rs. 2 Lakhs in Aisa Waisa Paisa Bank account which pays interest XXX% a year. How much can he withdraw annually for a period of 12 years? Assuming that the withdrawals are at the end of each year.

2. Saurabh Tiwary deposits Rs. 2 Lakhs in Chalta Firta Bank account which pays interest XXX% a year. How much can he withdraw annually for a period of 15 years? Assuming that the withdrawals are at the end of each year.

3. Rachna *Rani badi sayani* has just borrowed Rs.1 lakh for a family holiday at XXX% a year. The loan is to be repaid in 12 equal monthly installments, payable at the end of each month. What will be the amount for the installment?

4. V Janani, needs Rs.200,000 to buy a bike and plans to make a down payment of 15% and borrow the remaining amount at XXX%. The loan has to be repaid in 8 equal annual installments beginning 4 years from now (i.e. the first payment will be at the end of fourth year). What should be the amount of the annual loan payments?

5. In order to replace a truck, 8 years from now, Dhruv Sethi and Co. will require 19,80,000. What amount should be accumulated each year at XXX% rate of interest, so as to replace the vehicle after 8 years?

6. Congratulations, suddenly you are a parent!!! Your daughter is expected to start her college days at an age of 18 years. If you put away Rs. 100 at the end of each quarter for 18 years, how much will you have when she is ready to begin college? The money is supposed to be invested in a 'quarterly investment plan' with a promise of return of XXX% per year compounded quarterly? (Assume that today is 1st of Jan.)

7. Sangeeta Mishra, plans to fund her individual retirement account, beginning today, with 24 monthly deposits of Rs. 700, which she will continue for the next 2 years. If she can earn a

monthly compound rate of XXX percent on her deposits, the amount in the account upon retirement will be _____

8. Kunal Negi, has taken a loan. He has to repay it through a 12- payment annuity of Rs.10,000 that will begin 8 years hence, which means that the first payment occurs at the end of 8 years. What is the present value of this annuity if the discount rate is XXX% a year?

9. Prateek Rungta borrows Rs. 60,000 from the bank at XXX percent annually compounded interest to be repaid in six equal yearly installments. The interest paid in the first year is _____

10. Arpit Gupta borrows Rs. 45,000 from the bank at XXX percent annually compounded interest to be repaid in six equal yearly installments. The interest paid in the third year is _____

11. Punit Badal has been given a choice between two retirement policies as described below.
    ❖ Policy A: You will receive equal annual payments of Rs 1,000,000 in 35 years from now for 10 years.
    ❖ Policy B: You will receive one lump-sum of Rs 10,000,000 in 40 years from now.

    Which policy would you choose for Punit? Assume rate of interest is XXX percent.

12. If Rs 1000 is invested now, Rs 1500 two years from now, and Rs 800 four years from now at an interest rate of XXX% compounded annually, what will be the total amount in 10 years?

13. Suppose Himanshu Kapila's budget allows him to pay Rs.14,000 per month (at the end of every month) for 3 years towards a painting. Himanshu learns from a bank that the going rate of interest on personal loan is XXX% per month for 36 months. How much can he borrow?

14. For a 1 year period:
    A. In India, which bank offers you the highest rate of savings in the following categories? i) Cooperative Banks ii) Scheduled Commercial Banks – private sector and iii) Scheduled Commercial Banks – public sector
    B. Which NBFC offers you the highest rate of interest on fixed deposits?
    Provide appropriate quick reference for the same.