Master of Arts Examination 2018

(2^{nd} Year 3^{rd} Semester)

Economics

Financial Economics

Answer any three

Time: 2 Hours **Full Marks: 30**

1. (a) What do you mean by efficient set theorem?
   (b) Why would you expect individual securities to generally lie in the "eastern" portion of the feasible set, whereas only portfolios would lie in the "north-western" portion?
   (c) Show with the help of a numerical example that the efficient frontier is concave.
   (2+3+5)
2. Dandelion Pfeffer owns a portfolio with the following characteristics:

Security	Factor 1 Sensitivity	Factor 2 Sensitivity	Proportion	Expected Return
A	2.50	1.40	0.30	13%
B	1.60	0.90	0.30	18%
C	0.80	1.00	0.20	10%
D	2.00	1.30	0.20	12%

   Assume that the returns are generated by a two-factor model. Dandelion decides to create an arbitrage portfolio by increasing the holding of Security B by 0.05.

   (a) What must be the weights of the other three securities in Dandelion's portfolio?
   (b) What is the expected return on the arbitrage portfolio?
   (c) What is the expected return on the new portfolio after arbitrage?
   (d) Explain the significance of APT line. (3+2+2+3)

3. (a) Discuss how in general profit margin of a firm is assessed.
   (b) How would you assess whether the financial leverage of a firm is increased or not.
   (5+5)
4. Metcalf Engineers is considering a proposal to replace one of its hammers. The following information is available:
   (a) The existing hammer was bought two years ago for Rs. 10 lakh. It has been depreciated at the rate of $33\frac{1}{3}$ per cent per annum (written down method). It can be

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presently sold at its book value. It has a remaining life of 5 years after which, on disposal, it would fetch a value equal to it's the then book value.

(b) The new hammer costs Rs. 16 lakh. It will be subject to a depreciation rate $33^1/_3$ per cent per annum (written down method). After 5 years it is expected to fetch a value equal to it's the then book value. The replacement of the old hammer would increase revenues by Rs. 2 lakh per year and reduce operating cost (excluding depreciation) by Rs. 1.5 lakh per year.

Compute the incremental post-tax cash flows with the replacement proposal, assuming a tax rate of 50%. 10

5. (a) What is the substance of Miller and Modigliani "dividend irrelevance" theorem?

(b) Discuss the criticisms of the Miller and Modigliani position. (4+6)