

**Jagan Institute of Management Studies**  
**End-Term Examination, September-October, 2017**  
**Trimester IV – PGDM 2016-18**

**Security Analysis & Portfolio Management**  
**ET\_PG\_SAPM\_0410**

Time: 3 Hrs.

M. Marks: 70

**INSTRUCTIONS: Attempt any SIX questions including Q1 which is compulsory.**

- Q 1 a)** The Roe and Boa corporations have the following expected risks and returns for the next year.

	<b>Roe</b>	<b>Boa</b>
<b>Return</b>	20%	23%
<b>Std. dev.</b>	21%	25%
<b>Coeff. of correlation</b>	0.4	

Find out portfolio risk and return if 50% of funds are allocated for each stock.

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- b)** Examine the market efficiency using Run test for the following stock prices.

(Given Z at 5% = ±1.96)

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<b>Date</b>	2-Sep	2-Oct	2-Nov	2-Dec	3-Jan	3-Feb	3-Mar	3-Apr	3-May	3-Jun
<b>Stock Price</b>	208.7	163.15	191.25	186.6	162.3	175.3	151.55	135.15	123.4	154.55

- c)** The following historical rate of return information is provided for Funky Software Co. and the stock market:

<b>Year</b>	<b>Funky Return (%)</b>	<b>Market Return (%)</b>
2010	12	15
2011	9	13
2012	-11	14
2013	8	-9
2014	11	12
2015	4	9

- i) What is Funky's measure of systematic risk? What do their sign signify?  
 ii) What is Funky's return if market return is 10%?

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**Q 2** Draw a properly labeled graph of the Markowitz Efficient Frontier and Indifference curve for an investor. Elaborate the procedure of optimum portfolio selection using Markowitz model. **10**

**Q 3 a)** CAPM stands for Capital Asset Pricing Model. Explain how it is used to determine whether a security is under/overpriced. **5**  
**b)** In 1970, Fama propounded Efficient Market Hypothesis. Describe the three forms of Efficient Market Hypothesis. **5**

**Q 4 a)** Do you think Fibonacci Series can be used in analysis in stock market? Justify. **7**  
 A technical analyst reports that “The market is taking the strong support of 20 *days moving average (DMA)* at the present levels and along with that momentum indicators are also supporting the market where immediate *resistance* can be seen at 10,150 levels. On the flip side, 9,940 could be the stronger *support* over short-term where a close below could be the only signal that might bring some selling pressure over near future,” What do you understand from this statement? In the light of this statement, elucidate the moving average, resistance and support along with 3 different price patterns used by technical analysts. **7**

**b)** We are given stock prices of ABC stock. On the basis of “Relative strength Index (R S I)”, should we purchase or sell this stock?

Date	Dec 13	14	15	16	17	20	21	22
Price	510	515	513	540	549	536	542	529

**3**

**Q 5** The meaning of term *Investment* is different for a layman, an economist and an investor. Do you agree? Elucidate the process of financial investment. **10**

**Q 6** Recently, in one of the interviews, Mr. Tandon, MD & CEO, Quant Broking, said that “Risk appetite, not only in US but even in Europe and the developed market, is peaking out and it is worrisome that liquidity has started declining”. What does this statement mean to stock market? Explain in the context to present stock market condition and GDP growth rate for the first quarter of year 2017-18. **10**

**Q 7** Rank the three funds given below with the help of Sharpe, Treynor and Jensen’s performance Index (Based on predictive ability of portfolio manager).

<b>Growth Fund</b>	<b>Return (%)</b>	<b>Beta</b>	<b><math>\sigma</math></b>
<b>A</b>	17	1.6	13
<b>B</b>	15	1.8	11

<b>C</b>	11	0.80	10
<b>Market</b>	15	1	15
<b>R<sub>f</sub></b>	7	----	----

Is there any difference in the ranking according to these measures? If so, why?

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**Q 8 a)** Consider a portfolio of five securities with the following characteristics.

Security	Weights	$\beta_i$	Residual (%) Variance $\sigma_{\epsilon_i}^2$
A	0.10	1.35	5
B	0.20	1.05	9
C	0.15	0.80	4
D	0.30	1.5	12
E	0.25	1.12	8

Assuming the variance of return on market index to be 20%, calculate the portfolio risk using Sharpe single index model.

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**b)** Determine Macaulay's duration of a bond that has a face value of Rs 1000 with a 10% annual coupon rate and a three year term to maturity. The bond's yield to maturity is 12%.

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**Q 9** Manika wants to invest in the one of the three companies given below. She believes that no company should be considered for investment unless it has strong fundamentals and good current financial position. You are asked to examine the following data and suggest her best company out of X, Y and Z for making investment.

Ratio	x		y		Z	
	2015	2016	2015	2016	2015	2016
Current ratio	2.1	2.5	2	2.26	2.71	2.53
Acid test ratio	1.27	1.42	1.38	1.50	1.90	1.76
Composition of current assets (%)						
• Cash	13	13	34	29	34	34
• Receivable	38	36	24	26	33	32
• Inventory	45	47	33	35	31	31
• Other current Assets	4	4	9	10	2	3
Net sales to inventory	3.9	3.77	4.45	4.23	5.65	5.25
Net sales to working capital	3.29	2.97	3.10	2.81	2.87	2.85

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