

**VPM's**  
**DR VN BRIMS, Thane**  
**Programme: MMS (2021-23)**  
**Third Semester Regular Examination February 2023**

<b>Course Name:</b> Security Analysis and Portfolio Management		<b>Course Code</b>	MMS - F306		
<b>Roll No.</b>		<b>Marks</b>	60		
<b>Total No. of Questions</b>	6	<b>Duration</b>	3 Hours		
<b>Total No. of printed pages</b>	3	<b>Date</b>	10/02/2023		
<b>Course Outcome Statements:</b>					
<b>CO1:</b> RECALL basic terminologies in relation to Security Analysis and Portfolio Management					
<b>CO2:</b> EXPLAIN the concepts & formulas pertaining to Security Analysis and Portfolio Management					
<b>CO3:</b> MAKE USE OF formulas and frameworks related to securities risk and return analysis, capital market theories, portfolio theory, investment decision theory, indexing and benchmarking, technical analysis and fixed income security analysis					
<b>CO4:</b> EXAMINE the various types of financial results with respect to risk and return, CAPM, Sharpe ratio, Treynor ratio, Jensen's Alpha, M-squared, technical analysis, Mutual Fund performances pricing of bonds, for making relevant inferences					
<b>CO5:</b> ASSESS financial information related to security analysis for investment decision making					
<b>Instructions: -</b>			<b>Marks</b>	<b>BL</b>	<b>CO</b>
<b>Q. No 1</b> (All Questions are Compulsory)					
<b>Q. No.</b>		<b>Questions</b>			
<b>Q. 1</b>		Case/Case-let Study (500-800 words)			
	<b>a.</b>	<p>Dr. Zenith is an American Fund manager investing in large cap Equity from several years, he set-up a fund called as 'XanR Fund' in 2011. XanR also offers Portfolio Management Scheme (PMS) services to individual clients.</p> <p>XanR has continuously outperformed the market over last few years and a lot of young analysts see joining XanR as an amazing learning opportunity for building their career in Investment Analysis and portfolio management.</p> <p>Dr. Zenith appoints Mr. Archon as an interviewer for the ongoing technical round of interviews. Mr. Archon puts candidates to test on their analytical ability with the following scenario-based question:</p> <p>Imagine a High Net Worth (HNI) client, financially independent, aged 59, approaching you with willingness to take low risk. The client has a kid who is very well settled and is not dependent on the client at all. The client is currently working as 'Head of US Operations' for a multi-national pharma company but planning to retire in a year or two. On priority, he wants to maintain his standard of living and continue building wealth. He also wishes to set-up a trust for his 1 grandchild. As a secondary objective he would like to contribute some wealth to charity.</p> <p>Analyse the above scenario purely from a Qualitative Aspect and highlight which factors you would consider before designing portfolio of the client? Write answer in Pointers keeping in mind the process of portfolio management.</p>	<b>6</b>	<b>Level 4</b>	<b>CO4</b>
	<b>b.</b>	Mr. Archon goes on with the interview process and decides to test the problem-solving ability of candidates. He writes down some basic data and asks the candidates to Decide which of the following equal-weighted portfolios will have lower portfolio	<b>6</b>	<b>Level 5</b>	<b>CO5</b>

		<p>risk:</p> <p><u>Portfolio A</u> SD of Stock 1 = 18% and SD of Stock 2 = 12%, correlation coefficient = 0.1</p> <p><u>Portfolio B</u> SD of Stock 1 = 9% and SD of stock 2 = 20%, Correlation coefficient = 0.8</p>																							
<b>Q. 2</b>		<b>Answer Any one from the following.</b>																							
	<b>a.</b>	<p>Assess which security is better using Sharpe ratio, Treynor ratio &amp; M-squared measure</p> <table border="1"> <thead> <tr> <th></th> <th><b>Pidilite</b></th> <th><b>Havells</b></th> <th><b>Sensex</b></th> </tr> </thead> <tbody> <tr> <td>E(R)</td> <td>15%</td> <td>20%</td> <td>12%</td> </tr> <tr> <td>SD</td> <td>10%</td> <td>12%</td> <td>8%</td> </tr> <tr> <td>Beta</td> <td>1.2</td> <td>0.8</td> <td>1</td> </tr> <tr> <td>Rf</td> <td colspan="3">5%</td> </tr> </tbody> </table>		<b>Pidilite</b>	<b>Havells</b>	<b>Sensex</b>	E(R)	15%	20%	12%	SD	10%	12%	8%	Beta	1.2	0.8	1	Rf	5%			<b>6</b>	<b>Level 5</b>	<b>CO5</b>
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	<b>b.</b>	<p>Evaluate which of the following securities are overvalued and undervalued by constructing SML:</p> <table border="1"> <thead> <tr> <th><b>Security</b></th> <th><b>Beta</b></th> <th><b>Average Return</b></th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2</td> <td>10 %</td> </tr> <tr> <td>B</td> <td>0.5</td> <td>14 %</td> </tr> <tr> <td>C</td> <td>1</td> <td>18 %</td> </tr> <tr> <td>D</td> <td>1.5</td> <td>14 %</td> </tr> <tr> <td>Sensex (Market Portfolio)</td> <td>1</td> <td>12 %</td> </tr> </tbody> </table> <p>Assume Rf = 5%</p>	<b>Security</b>	<b>Beta</b>	<b>Average Return</b>	A	2	10 %	B	0.5	14 %	C	1	18 %	D	1.5	14 %	Sensex (Market Portfolio)	1	12 %	<b>6</b>	<b>Level 5</b>	<b>CO5</b>		
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<b>Q. 3</b>		<b>Answer Any one from the following.</b>																							
	<b>a.</b>	<p>i) Examine portfolio return &amp; portfolio beta of the given securities to find what is the E(R) and Beta of Stock C. Portfolio Return = 11.4% and Portfolio Beta = 1.3</p> <table border="1"> <thead> <tr> <th><b>Stock</b></th> <th><b>Return</b></th> <th><b>Beta</b></th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10%</td> <td>1.2</td> </tr> <tr> <td>B</td> <td>-3%</td> <td>1.1</td> </tr> <tr> <td>C</td> <td>?</td> <td>?</td> </tr> </tbody> </table> <p>Assume weights of A, B and C are 0.4, 0.2 and 0.4 respectively.</p> <p>ii) If Variance of a security= 400, SD of market portfolio= 15, if the beta of the security is 1, Analyse what must be the coefficient of correlation between security and the market?</p>	<b>Stock</b>	<b>Return</b>	<b>Beta</b>	A	10%	1.2	B	-3%	1.1	C	?	?	<b>6</b>	<b>Level 4</b>	<b>CO4</b>								
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	<b>b.</b>	<p>i) Analyse the given information and provide recommendation of Buy/Sell based on the value of each technical indicator separately with a brief explanation:</p> <table border="1"> <thead> <tr> <th><b>Indicator</b></th> <th><b>Value/Observation</b></th> </tr> </thead> <tbody> <tr> <td>RSI</td> <td>72</td> </tr> <tr> <td>MACD</td> <td>MACD Line Cuts Signal Line and Goes Below</td> </tr> <tr> <td>DI+ and DI-</td> <td>DI- is below DI+</td> </tr> <tr> <td>Parabolic SAR</td> <td>The Dots are appearing below the line</td> </tr> <tr> <td>Bollinger Band</td> <td>The Price keeps touching the bottom band.</td> </tr> <tr> <td>Support and</td> <td>The price has broken the</td> </tr> </tbody> </table>	<b>Indicator</b>	<b>Value/Observation</b>	RSI	72	MACD	MACD Line Cuts Signal Line and Goes Below	DI+ and DI-	DI- is below DI+	Parabolic SAR	The Dots are appearing below the line	Bollinger Band	The Price keeps touching the bottom band.	Support and	The price has broken the	<b>6</b>	<b>Level 4</b>	<b>CO4</b>						
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		Resistance	Support					
<b>Q. 4</b>		Answer <b>Any two</b> from the following.						
	<b>a.</b>	Calculate 'Free-Float Market Cap' weighted Index and 'Price' Weighted Index based on the following data:			<b>6</b>	<b>Level 3</b>	<b>CO3</b>	
		<b>Security</b>	<b>No. of Instruments</b>	<b>Price (Rs.)</b>				<b>Promoter Holding</b>
		A	10	300				60%
		B	25	250				75%
		C	30	50				40%
		D	15	150	55%			
	<b>b.</b>	Solve the following 2 questions:			<b>6</b>	<b>Level 3</b>	<b>CO3</b>	
		i) Mr. Sam Smith purchased a share of Alphabet Inc. at \$48.90 and held it for 3 months, during these 3 months he received a total dividend of \$6.5 and then he sold the shares at \$65.20. Find HPR, BEY and EAY.						
		ii) Find SD of the following stock:						
		<b>Year</b>	<b>Cipla Return</b>					
		1	15%					
		2	28%					
		3	-13%					
		4	4%					
	<b>c.</b>	Calculate Macaulay's Duration and Modified Duration of a bond with a face value of Rs.1,000, Yield =9% p.a., maturity=2 years & coupon rate = 7% p.a. Assume the coupon is paid semi-annually.			<b>6</b>	<b>Level 3</b>	<b>CO3</b>	
<b>Q. 5</b>		Answer <b>Any two</b> from the following.						
	<b>a.</b>	Explain the concept of Efficient Market Hypothesis. [Diagram is Expected]			<b>6</b>	<b>Level 2</b>	<b>CO2</b>	
	<b>b.</b>	Describe the following terms: i) Index Funds and ii) Approaches to find intrinsic value of equity shares			<b>6</b>	<b>Level 2</b>	<b>CO2</b>	
	<b>c.</b>	Explain the concept Efficient Frontier and Characteristic Line? [Diagrams are expected]			<b>6</b>	<b>Level 2</b>	<b>CO2</b>	
<b>Q. 6</b>		Answer <b>Any two</b> from the following.						
	<b>a.</b>	Recall various types of Bonds with their brief meaning.			<b>6</b>	<b>Level 1</b>	<b>CO1</b>	
	<b>b.</b>	What is Dow-Theory and its 6 tenets/principles?			<b>6</b>	<b>Level 1</b>	<b>CO1</b>	
	<b>c.</b>	What is the 5-factor model of Fama-French?			<b>6</b>	<b>Level 1</b>	<b>CO1</b>	