UNIVERSITY OF PETROLEUM & ENERGY STUDIES
End Semester Examination (Online) – December, 2021

Program: MA Economics **Semester: III**
Subject/Course: Financial Economics **Max. Marks: 100**
Course Code: ECON 8032P **Duration: 3 Hours**

Q.No.	Section A (Type the Answers in test box)	10Q×2M=20M	COs
	Question	**Marks**	**COs**
1	The term "present value" refers to the future value of present day money. (a) True (b) False (c) Uncertain	2	CO 1
2	Suppose that we wanted to sum the 2020 returns on ten shares to calculate the return on a portfolio over that year. What method of calculating the individual stock returns would enable us to do this? (a) Simple (b) Continuously compounded (c) Neither approach would allow us to do this validly (d) Either approach could be used and they would both give the same portfolio return	2	CO 1
3	A trader sells 5 units of gold futures at Rs.16500 per 10 grams. What is the value of his open short position? Unit of trading is 1 Kg and delivery unit is one Kg. a) Rs.82,500 b) Rs.82,50,000 c) Rs.8,25,000 d) Rs.82,000	2	CO 1
4	Which of the following cannot be an underlying asset for a financial derivative contract? a. Equity Index c. Interest Rate b. Commodities d. Foreign Exchange	2	CO 1
5	A trader sells three-month call options on 10 units of gold with a strike of Rs.7000 per 10 gms at a premium of Rs.70. Unit of trading is 100 gms. On the day of expiration, the spot price of gold is Rs.6080/10 gms. What is his net payoff? 1. (-)7000 3. (-)700 2. (+) 1,000 4. (-) 1,000	2	CO1
6	A market where new securities are bought and sold for the first time is known as a_____ Market.	2	CO1

	a) Primary b) Secondary c) Tertiary d) Capital		

7	The call option price is higher when:
	  a) The sticking price is higher than the stock price
	  b) The sticking price is lower than the stock price
	  c) The option period is shorter
	  d) The option period is longer and the strike price is lower
		2	CO1

8	Mr. John invested ₹2000 in gold, which he bought at ₹520 per gram. After two years, he sold them at ₹566 per gram. His annual rate of return from this investment is approximately_____
	  A) 4%
	  B) 3.3%
	  C) 4.4%
	  D) 5.4%
		2	CO1

9	The yield curve usually slopes upward for the following reason:
	  A) Longer maturity bonds typically pay higher interest rates than bonds with shorter 2maturity
	  B) Longer maturity bonds typically pay lower interest rates than bonds with shorter maturity
	  C) Default risk is higher for shorter maturity bonds
	  D) Longer maturity bonds are not taxable
		2	CO1

10	A perpetuity is distinguished from other bonds in that it:
	  a) Never matures
	  b) Pays continuously compounded interest
	  c) Is issued only by the U.S. government
	  d) Will be used to purchase another bond when it matures unless the owner specifies otherwise.
		2	CO1

Q.No.	**Section-B** **(Scan and upload)**	**4Q×5M=20M**	
1.	A) The spot price of the market index is $900. A 3-month forward contract on this index is priced at $930. Draw the payoff graph for the short position in the forward contract. B) The spot price of the market index is $900. After 3 months, the market index is priced at $920. The annual rate of interest on treasuries is 4.8% (0.4% per month). The premium on the long put, with an exercise price of $930, is $8.00. Draw the payoff graph for the long put position at expiration	5	CO2
2.	What are the economic benefits of derivative markets?	5	CO2

3.	Explain the difference between forward and futures contract.	5	CO 2
4.	Consider the two projects whose cash flows are shown in the following table. 		Years					
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	0	1	2	3	4	5
Project 1	-100	30	30	30	30	30
Project 2	-150	42	42	42	42	42 | Find the IRR of the two projects and the NPVs at 5%. Show that the IRR and NPV figures yield different recommendations. Can you explain this?	5	CO 3

Q.No.	**Section-C** **(Scan and upload)**	3Q×10M=30M	
1	The regress of excess return sandp (S&P Index) on excess return on Ford Motors erford is given below: Dependent Variable: ERFORD Method: Least Squares Date: 02/28/20 Time: 16:56 Sample (adjusted): 2002M02 2007M04 Included observations: 63 after adjustments 	Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	2.020219	2.801382	0.721151	0.4736
ERSANDP	0.359726	0.794443	0.452803	0.6523 | |			
R-squared	0.003350	Mean dependent var	2.097445
Adjusted R-squared	-0.012989	S.D. dependent var	22.05129
S.E. of regression	22.19404	Akaike info criterion	9.068756
Sum squared resid	30047.09	Schwarz criterion	9.136792
Log likelihood	-283.6658	Hannan-Quinn criter.	9.095514
F-statistic	0.205031	Durbin-Watson stat	1.785699
Prob(F-statistic)	0.652297			 Interpret the above regression output. Do you recommend the inclusion of Intercept in the model?	10	CO 3
2	Define hedge ratio. Calculate the hedge ratio from the following data and interpret it. 	Date	Spot price	Futures price	Δ *Spot*	Δ *Future*
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19/11/2016	17810.95	18292	-354.75	-308
20/11/2016	17468.9	18005	-342.05	-287
21/11/2016	17743.75	18000	274.85	-5		10	CO 3

22/11/2016	17706.15	18267	-37.6	267
23/11/2016	17611.75	18267	-94.4	0
24/11/2016	17473.5	18223	-138.25	-44
25/11/2016	17839.8	18305	366.3	82

3	Suppose the government is proposing to sell a 5-year bond of ₹1,000 at 8 per cent rate of interest per annum. The bond amount will be amortised (repaid) equally over its life. If an investor has a minimum required rate of return of 7 per cent, what is the bond's present value for him?	10	CO3

Q.No.	**Section-D** **(Scan and upload)**	2Q×15M=30M	
1	What are the factors, which affect volatility of bond prices? Explain	15	CO4
2	The capital asset pricing model (CAPM) can be written as $$E(R_i) = R_f + \beta_i[E(R_m) - R_f]$$ ....(1) The first step in using the CAPM is to estimate the Stock's beta using the market model. The market model can be written as $$R_{it} = \alpha_i + \beta_i R_{mt} + u_{it}$$ ....(2) Where R_{it} is the excess return for security i at time t, Rmt is the excess return on a proxy for the market portfolio at time t, and ut is an iid random disturbance term. The coefficient beta in this case is also the CAPM beta for security i. Suppose that you had estimated (2) and found that the estimated value of beta for a stock, $\beta^\wedge$ was 1.147. The standard error associated with this coefficient SE ($\beta^\wedge$) is estimated to be 0.0548. A city analyst has told you that this security closely follows the market, but that it is no more risky, on average, than the market. This can be tested by the null hypotheses that the value of beta is one. The model is estimated over 62 daily observations. Test this hypothesis against a one-sided alternative that the security is more risky than the market, at the 5% level. Write down the null and alternative hypothesis. What do you conclude? Are the analyst's claims empirically verified?. OR Consider a portfolio of 300 shares of firm A worth $10/share and 50 shares of firm B worth $40/share. You expect a return of 8% for stock A and a return of 13% for stock B. (a) What is the total value of the portfolio, what are the portfolio weights and what is the expected return? (b) Suppose firm A's share price goes up to $12 and firm B's share price falls to $36.	15	CO4

	What is the new value of the portfolio? What return did it earn? After the price change, what are the new portfolio weights?.		