GIET UNIVERSITY, GUNUPUR – 765022

M. B. A (Third Semester) Examinations, December' 2020

MB 302 B – FINANCIAL DERIVATIVES

Time: 2 hrs Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – I: (Multiple Choice Questions) **(1 x 10 = 10 Marks)**

Q. 1 Answer ***ALL*** questions

a. Which of the following is not a derivative transaction?
(i) An investor buying index futures in the hope that the index will go up
(ii) A copper fabricator entering into futures contracts to buy his annual requirements of copper.
(iii) A farmer selling his crop at a future date
(iv) An exporter selling dollars in the spot market

b. The interest rates are usually quoted on:
(i) Per annum basis
(ii) Per day basis
(iii) Per week basis
(iv) Per month basis

c. Mr. Ram buys 100 calls on a stock with a strike of Rs.1,200. He pays a premium of Rs.50/call. A month later the stock trades in the market at Rs.1,300. Upon exercise he will receive _____.
(i) Rs.10,000
(ii) Rs.1,200
(iii) Rs.6,000
(iv) Rs.1,150

d. An interest rate is 15% per annum when expressed with annual compounding. What is the equivalent rate with continuous compounding?
(i) 14%
(ii) 14.50%
(iii) 13.98%
(iv) 14.75%

e. The favorable difference received by buyer/holder on the exercise/expiry date, between the final settlement price as and the strike price, will be recognized as _____
(i) Income
(ii) Expense
(iii) Cannot say
(iv) None

f. Change in option value with respect to the change in the volatility of the underlying price is denoted by:
(i) Delta
(ii) Vega
(iii) Theta
(iv) Gamma

g. In which of the following there is an unlimited downside risk?
(i) Buying a call option
(ii) Writing a call option
(iii) Buying a put option
(iv) Writing a put option

h. Which of the following is incorrect?
(i) A futures contract is a forward contract
(ii) A forward contract is a futures contract
(iii) Futures are standardised contracts
(iv) Futures are exchange traded

i. A normal backwardation implies that:
(i) Investors are risk neutral
(ii) Sellers provide service to buyers
(iii) Buyers provide service to sellers
(iv) There will be no trade, whatsoever

j. Which one of the following is not an investment:
(i) Forwards
(ii) Futures
(iii) Options
(iv) All the above

PART – II (A): (Short Answer Questions) (2 x 5 = 10 Marks)

Q.2. Answer ***ALL*** questions

a. Define Arbitrage?

b. How do exchange-traded currency futures enable hedging against currency risk?

c. Explain OTC and ETD.

d. Ashish is bullish about HLL which trades in the spot market at Rs.210. He buys 10 three-month call option contracts on HLL with a strike of 230 at a premium of Rs.1.05 per call. Three months later, HLL closes at Rs. 250. Assuming 1 contract = 100 shares, his profit on the position is ____.

e. What is Intrinsic value of an option?

PART – II (B): (Long Answer Questions)

Answer any **FIVE** questions. **(6 x 5 = 30 Marks)**

3. An equity share is currently selling for Rs 100. In a year's time it can rise by 30 percent or fall by 10 percent. The exercise price of call option on this share is Rs.110.

What is the value of the call option if the risk – free rate is 7 percent ? Use the Binomial method

4. What is the value of the call option if the risk-free rate is 6 percent? Use the risk – neutral method?

5. Explain financial futures contract. Describe the types of futures.

6. Consider the following data for a certain stock:

Price of the stock now = S_0 = Rs.150
Exercise price = E = Rs.140
Standard deviation of continuously compounded annual return = σ = 0.30
Expiration period of the call option = 3 months
Risk-free interest rate per annum = 6 percent

What is the value of the call option?

7. What do you understand by options? Differentiate between futures and options.

8. Define Forward Contracts? Explain its Features and limitations

9. Suppose a stock index has a current value of 4985. If the risk-free rate is 7 percent and the expected dividend yield on the index is 4 percent, what should be the price of the one year maturity futures contract?

10. The following information about gunmetal scrap is given:

- Spot price : Rs.150,000 per ton
- Futures price : Rs.160,000 for a one year contract
- Interest rate : 13 per cent
- PV (storage costs) : Rs.800 per year

What is the PV (convenience yield) of gunmetal scrap?

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