

## GUJARAT TECHNOLOGICAL UNIVERSITY

### MBA- SEMESTER IV- EXAMINATION – WINTER 2015

**Subject Code: 2840202**
**Date: 03/12/2015**
**Subject Name: Risk Management**
**Time: 02.30 PM TO 05.30 PM**
**Total Marks: 70**
**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain the following terms: **07**
- 1) Market orders
  - 2) Hedging effectiveness
  - 3) Stop-loss Orders
  - 4) Interest rate risk
  - 5) Arbitrager
  - 6) Good-till-day orders
  - 7) Swap

- (b)** “In an emerging market like India – Role of regulatory is very crucial” In light of that explain role of SEBI and RBI in derivative market. **07**

- Q.2 (a)** A stockbroker is holding 1,000 shares of Reliance Industries Limited (RIL) selling currently at Rs. 1,800. The futures contract expiring in one month is trading at Rs 1,808. Each future contract is for 100 shares of RIL. If the Stock broker can borrow/ invest at 12% per annum can he take advantage of the situation? Assume annual compounding of interest rates. **07**

- (b)** Explain difference between forward and future contracts. **07**

**OR**

- (b)** Calculate MTM for a future contract of 250 shares of Tata Steel for 5<sup>th</sup> June to 18<sup>th</sup> June, 2014. Mr. X took long position in Tata Steel Future on 5<sup>th</sup> June, 2014 at Rs. 385.60 per share. Mr. X sold Tata Steel Future on 18<sup>th</sup> June at Rs. 399.20 per share. The closing price for Tata Steel on each day are as under: **07**

5 <sup>th</sup> June	386.10	11 <sup>th</sup> June	398.60	17 <sup>th</sup> June	389.20
6 <sup>th</sup> June	389.90	12 <sup>th</sup> June	401.10		
9 <sup>th</sup> June	383.20	13 <sup>th</sup> June	376.10		
10 <sup>th</sup> June	393.10	16 <sup>th</sup> June	381.60		

There is no transaction cost.

- Q.3 (a)** “Buyer of option has limited losses while writer has unlimited losses” in light of the above statement explain why an option writer is required to post margin while buyer of option normally is not. **07**

- (b) Calculate the value of call option by using Black and Scholes model with the following data 07

1. Spot Price = Rs. 1272
2. Strike Price = Rs. 1280
3. Continuously compounded rate of interest = 8% p.a.
4. Time to expiration = 91 days
5. S.D. of the continuously compounded rate of return = 0.2
6. Value of  $e^x$  and  $e^{-x}$

X	$e^x$	$e^{-x}$
0.01	1.01005	0.99005
0.02	1.02020	0.98020
0.03	1.03045	0.97045

**OR**

- Q.3** (a) Explain in detail “Factors affecting Option prices” 07
- (b) Mr. Y sold GMR Infra 26<sup>th</sup> February, 2014 Future at Rs. 28.20 per share and wrote a put of Rs. 29 per share of same underlying for same expiry for premium of Rs. 1.60 per share. Calculate his net pay off if on expiry, spot price of GMR is Rs. 28.40 per share. Assume lot size of 7500 shares. Neglect transaction cost. 07

- Q.4** (a) What is commodity future? Benefits of commodity futures? 07
- (b) Write note on advantages of exchange traded currency futures contracts over OTC currency forward contracts. 07

**OR**

- Q.4** (a) What are Interest Rate Swaps and Currency Swaps? Write note on need of swap intermediary – the swap dealer / bank. 07
- (b) The risk of spot prices on gold as measured from its standard deviation is placed at Rs. 120. Similarly, the price risk of the 3-month futures contract on gold is estimated to be Rs.150. the co-efficient correlation between the two is placed at 0.85 in order to hedge spot position what ratio of futures contract would be optimal? 07
- Q.5** (a) Explain Butterfly spread with hypothetical values of S&P CNX Nifty. 07
- (b) What is perfect hedge and imperfect hedge? Give the reasons of imperfect hedge. 07

**OR**

- Q.5** (a) What is Convergence? Explain principles of Convergence in normal Market and inverted Market. 07
- (b) Write short note on trading, clearing and settlement system of derivative market in India. 07

\*\*\*\*\*