Seat No:_______________ Enrollment No:_______________

# PARUL UNIVERSITY

## FACULTY OF COMMERCE

**M.Com.(Hons) Summer 2018 – 19 Examination**

**Semester: 6** **Date: 03/04/2019**
**Subject Code: 16201252** **Time: 02:00pm To 04:30**
**Subject Name: Risk Management** **Total Marks: 60**

**Instructions:**
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as directed.**

**A) Multiple choice type questions. (Each of one mark)** **(06)**

1. Forward contract are usually available for a period up to ___________.
   a) 12 months b) 24 months
   c) 36 months d) 48 months
2. Additional margin required to bring an account up to the required level is ______.
   a) Initial margin b) Maintenance margin
   c) Variation margin d) Call margin
3. 100% hedge is known as_________________.
   a) Complete hedge b) Risk Minimizing hedge
   c) None of the above d) Both(a) & (b)
4. Future valuation model is also known as ______________.
   a) Cost of cash model b) Cost of carry model
   c) Carrying cost model d) Cash of carrying model
5. OTC means ________________.
   a) Out of the counter b) Over the counter
   c) Over the country d) None of the above
6. __________ is combination of forwards by two counterparties.
   a) Swap b) Future
   c) Options d) Forward

**B) Definitions / One-liners / Terms. (Each of one mark)** **(06)**

1. What is margin?
2. What are derivatives?
3. Who is speculator?
4. What is exchange traded derivatives?
5. What are options?
6. What are futures?

**Q.2 Numerical / Short Note Questions. (Each of 04 mark)** **(12)**

1. Explain features of option contract
2. Interpret the following quotes that you read in business standard in October 2007:

| Contract | Open | High | Low | Close | Open Interest | Traded Quantity | Number of Contracts |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **Nifty Nov 07 FUT** | 5,535 | 5,729 | 5,493 | 5,712 | 316 L | 323 L | 6,45,875 |
| | | | | | | | |
| **RIL Jan 08 FUT** | 2,662 | 2,727 | 2,684 | 2,726 | 3 K | 900 | 6 |

3. The share of TATA Company is trading at Rs.109. Mr.Q purchase a call option on TATA's share with a maturity of 6 months at a premium of Rs.7 for an exercise price of Rs.105. How much profit or loss will Mr. P make if on date of maturity of the option the actual share price turns out to be Rs.100, Rs.105, Rs.110, and Rs.120?

**Q.3 Answer the following. (Any Three)** **(18)**

1. Explain features of forward contracts.

2. Assume futures contract size to be 200, futures price to 2400 and that the investor has purchased futures. Following are the fluctuations over a 6 day period:

Day: 1: 2420 2: 2430 3: 2410 4: 2310 5: 2320 6: 2240

Initial margin is 30% and maintenance margin is 28%. Calculate Initial Margin, Maintenance Margin, Variation Margin and MTM Margin.

3 .On 31.08.13 value of stock index was Rs.2,200. Risk free rate of return is 8% p.a. Dividend yield on stock index is as under:

| Month | Dividend Paid |
|---|---|
| January | 3% |
| February | 4% |
| March | 3% |
| April | 3% |
| May | 4% |
| June | 3% |
| July | 3% |
| August | 4% |
| September | 3% |
| October | 3% |
| November | 4% |
| December | 3% |

Assuming interest rate is continuous compounded, find out the future price of contract deliverable on 31.13.13.
Given: $e^{0.01583} = 1.01593$.

4. For a stock currently quoted at Rs.70, a 3-month futures contract is available. Its face value is Rs.10 and the continuously compounded risk free rate is 8%. Determine the theoretical price of the futures contact based on following scenarios:-

(a) No dividend shall be paid by the company.
(b) Dividend of Rs.1.5 shall be paid as on today.
(c) Dividend of Rs.1.5 shall be paid in 1 month time.

Given: e0.02 = 1.0210 e-0.0067 = 0.9933

**Q.4 Answer the following. (Any two)** **(18)**

1. State the Advantages of forward & future contract.
2. Fill up the empty boxes in the following table.

| **Strike Price** | **Spot Price** | **Type of option** | **Premium paid** | **Will you exercise the options?** | **Nature of option** | **Intrinsic Value** | **Time Value** |
|---|---|---|---|---|---|---|---|
| 325 | 340 | Put | 20 | | | | |
| 300 | 350 | Call | 60 | | | | |
| 390 | 350 | Call | 2 | | | | |
| 1075 | 1035 | Put | 60 | | | | |
| 360 | 350 | Call | 10 | | | | |
| 2650 | 2645 | Put | 15 | | | | |
| 315 | 350 | Call | 40 | | | | |
| 70 | 80 | Put | 15 | | | | |

3. A mutual fund manager has purchased 2500 shares of reliance @ Rs. 2500 per share. He wants to hold this investment for 3 months. The beta of reliance is 1.2. The fund manager wishes to hedge his position using Nifty futures available at 5,200 at the moment.
   Calculate the appropriate hedge strategy using Index futures. Also, determine number of contracts of nifty futures to be bought or sold.
   What shall be the profit/loss made/sustained by the mutual fund manager if (a) after three months Nifty falls to 4,900 and the Reliance stock falls to Rs.2,250 or (b) after three months Nifty rises to 5,400 and reliance stock rises to Rs.2,800. (Lot size is 50units.)