

MAY 2016

**P/ID 77539/PMHQ/
PMB07/PMG07/
MBNHQ**

Time : Three hours

Maximum : 100 marks

PART A — (5 × 6 = 30 marks)

Answer any FIVE questions.

1. Define derivatives. State its features.
2. An investor own 10000 shares worth ₹50 each. How put options can be used to provide insurance against decline in value of investor holding?
3. How can a spread be created?
4. A call option at a strike price of ₹170 is selling at a premium of ₹15. At what share price on maturity will it break even for the buyer of the option?
5. Distinguish between risk financing and risk hedging.
6. Mention the differences between futures and options.
7. Why does owning an option only give rights and no obligations?
8. What are the ways to fulfill a futures contract commitment?

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

9. Consider three call options identical in every respect except for the maturity of 0.5, 1, and 1.5 years. Specially, the stock price is \$100, the annually compounded risk-free rate is 5%, and the strike price is \$100. Use a one period binomial model with $u = 4/3$ and $d = 3/4$. Calculate p and h . Explain.
10. On January 15, 2014, a refiner enters into an agreement with a crude oil supplier to buy 1 million barrels in three months time at a rate of USD 50/barrel. What are the cash flow consequences on the delivery date for the refiner and the supplier if the spot rate of crude oil is (a) USD 55, and (b) USD 45 a barrel?
11. From the following information, apply Black-Scholes model and find out the fair value of a European option.

Stock price	₹125-94
Exercise price	₹125
Standard deviation	0.83
Risk free interest rate	0.0446
Time to maturity	0.0959

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12. Explain the growth and development of derivatives market in global and national level.
13. Explain how stock index futures are used for adjusting the beta value of portfolio (a) upwards and (b) downward
14. Distinguish between forward contracts and future contracts.
15. Explain the assumptions of the Black-Scholes model for option pricing. What are the attributes of the model?
16. Distinguish the typical objectives of a dealer engaging in a derivatives transaction from those of an end user.

PART C — (1 × 20 = 20 marks)

Compulsory

17. Assume that you believe the futures prices for raisins are too low relative to nuts prices. Explain how you could take advantage of this belief.

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