JEM035/036 Financial Market Instruments

Topics for examination

1. Mechanics of forward a futures contracts: basic concepts, margin accounts, marking to market, forms of closing up of the contract, trading limits, principle of hedging with futures.

2. Practical examples of futures contracts: short-term and long-term interest rate futures, currency futures, stock index futures.

3. Model cost-of-carry: derivation of basic formula, covered and uncovered interest rate parity, stock index tracking.

4. Speculative strategies with futures: financial leverage, open position trading, spread trading, basis trading.

5. Arbitrage strategies with futures: box arbitrage, conversion arbitrage.

6. Hedging strategies with futures: hedge ratio, estimation of basis, interpolative hedge, minimum variance hedge.

7. Mechanics of option contracts: profit and loss profile of call and put options, intrinsic and time value, practical examples of option contracts.

8. Option combinations: synthetic security, combinations, spreads, put-call parity.

9. Elements of option pricing: binomial model, Black-Scholes formula, volatility smile, sensitivity analysis, delta and gamma hedging.

10. Trading strategies with options: open position trading, spread trading, volatility trading, covered call and protective put.

11. Exotic option: Asian options, binary options, barrier options, compound options, multiple-asset options.

12. Bond contract: classification of bonds, fair price of straight bond, clean and dirty price, yield measures on bonds.

13. Analysis of the yield curve: zero rates, implied forward rates, pricing of variable coupon bonds, index-linked bonds.

14. Measuring interest rate risk: duration and convexity, immunisation of interest rate risk.

15. Repo: cash flows in repo, basic terminology, application of repo (funding long and short positions, leveraging, liquidity management.

16. Mortgage loans: decomposition of mortgage instalment, prepayment risk, inflation-adjusted mortgage designs, mortgage-backed securities.

17. Interest rate swap: types of interest rate swaps, using swaps for speculative and hedging trade strategies, new issue arbitrage, warehousing of swaps, pricing interest rate swaps

18. Forward rate agreement: definition of the contract, hedging and speculation using FRA, FRA strips, pricing links between futures and FRA contracts.

19. Currency swap: types of currency swaps, using currency swaps for speculative and hedging trade strategies, pricing currency swaps.

20. Asset swap: description of contract, asset swap with fixed and variable notional amount, esoteric swaps.

21. Credit derivatives: basic notions, credit default swap, total return credit swap, credit options, credit linked notes.