

**Indian Maritime University**  
**(A Central University, Govt of India)**  
**End Semester Examinations – December 2024**  
**Programme Name: MBA(ITL/PSM)**  
**Semester: 3**  
**Subject Code: PG22/21E3309**

**Subject Name: FREIGHT DERIVATIVES AND RISK MANAGEMENT IN SHIPPING**

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Date: 26.12.2024

Max Marks: 60

Duration: 03 Hrs

Pass Marks: 30

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General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

**Section A**

**Ten MCQs/Fill in the Blanks of 01 Mark each –**

***Choose the correct answer as applicable.***

**1. Forward contracts are risky because they**

- A. are subject to lack of liquidity
- B. are subject to default risk.
- C. hedge a portfolio.
- D. both (a) and (b) are true.

**2. Futures markets have grown rapidly because futures**

- A. are standardized.
- B. have lower default risk.
- C. are liquid
- D. All of the above

**3. If you sold a short contract on financial futures you hope interest rates**

- A. rise.
- B. fall.

- C. are stable.
- D. fluctuate.

**4. .... risk is a loss may occur from the failure of another party to perform according to the terms of a contract?**

- A. Credit
- B. Currency
- C. Market
- D. Liquidity

**5. By hedging a portfolio ; a bank manager**

- A. Reduces interest rate risk
- B. Increases re investment risk
- C. Increases exchange rate risk
- D. None of these

**6. An option allowing the owner to sell an asset at a future date is a .....**

- A. Put option
- B. Call option
- C. Forward option
- D. Future contract

**7. The payoffs for financial derivatives linked to**

- A. Securities that will be issued in the future
- B. The volatility of interest rates
- C. previously issued securities
- D. none of the above.

**8. LIBOR stands for**

- A. London inter bank offered rate
- B. Local industrial bank offered rate
- C. Local interbank offered rate
- D. London industrial bank offered rate

**9. Which among the following is not a commodity future exchange**

- A. NCDEX
- B. NSDL

- C. NMCE
- D. MCX

**10. The option contract which can be exercised on a few dates before the maturity date**

- A. Bermudan option
- B. American option
- C. European option
- D. All the above

### **Section B**

**Five Questions of 02 Marks each**

- 11. Explain American and European Options
- 12. Describe "Backwardation" and "Contango"
- 13. "A forward contract is not settled until the end of life and do infact lead to delivery of the underlying asset" - explain
- 14. Differentiate OTC market and Exchange Trades
- 15. Explain Short and Long in a derivative contract

### **Section C**

Seven Questions of 08 Marks each of which **any 05** questions to be answered.

- 16. What is Forward and Futures market. Explain the significant differences in each markets
- 17. A Ltd, a ship owner, in March 2023 expects 54000 dwt vessel ready for chartering in June 2023 with a current time charter rate of \$3650/ton. Company expects a weak charter market in June 2023. Hence company sells a 45 day FFA contract at the prevailing rate of \$3,500/- ton.

B Ltd, a charterer, anticipating increase in freight market rates buys the contract to manager the risk of rising freight.

Both the companies agree to pay a brokerage of 0.25%.

Calculate :-

- 1. Value of FFA contract and brokerage payable by both parties

2. Positions in (i) Physical and FFA market in March 2023 (ii) June 2023 Physical market (iii) June 2023 FFA Market (iv) Portfolio of SPOT and FFA trades (v) calculate for A Ltd and B Ltd after adjustment of brokerage fees.

18. Who are all the participants in a Derivative Market and explain their role in the market

19. What do you mean by Options contract ? Explain option seller and option buyer ? what is CALL option and PUT option ?

20. Mention the different types financial risk faced by the shipping industry? Briefly explain the same ?

21. Consider a ship-owner who is looking to protect the company against a possible decrease of the freight rates. To this extent, the company sells an FFA contract for its Panamax ship based on time chartering, with trade date  $T_1 = 6$  months (1/2) year, contract price  $F = \$18,500$  per day, 6 settlement periods, where every settlement period has the length of one month and with the first settlement at 31 January 2022. (use calendar days for each month)

Assume the settlement price for each month is as follows :

Jan - \$ 15,000  
Feb - \$ 20,000  
Mar - \$ 19,000  
Apr - \$ 18,500  
May- \$ 16,000  
Jun - \$ 20,500

Calculate whether the FFA is profitable to ship owner.

22. In the Foreign Exchange Market explain the following terms:

- a) Bid, Ask
- b) Vostro, Nostro and Loro A/cs
- c) Translation and Transaction Exposure
- d) SPOT, TT Selling Rate, TT Buying Rate, TOM Rates

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