

**NAROTTAM MORARJEE INSTITUTE OF SHIPPING  
MUMBAI**

Examination Paper – March 2024

**Fellowship/Advance Diploma in Shipping management & Logistics – Final year**

**CHARTERING**

**Date: 10.03.2024**

**(80 Marks)**

**NOTE: Question 6 & 7 carry 15 marks each. Rest of the questions carry 10 marks each**

Q1) Write Short Notes (Any Two)

- a) Shipping Pools
- b) Demise Charter
- c) Stowage Factor

Q2) Explain following chartering terms (Any Five) -

- a) P&I bunkering Clause
- b) Laycan
- c) Before Breaking Bulk
- d) IGS
- e) Broken Stowage
- f) Institute Warranty Limits

Q3) Answer Briefly (Any Two)

- a) Describe critical terms when contracting with an Asbatankvoy charter party.
- b) Enumerate the concept "On Subjects".
- c) Enlist six important clauses appearing in NYPE charter-party form and its implications to charterers and owners as the case may be.

Q4) Answer any ONE Question

a) *Answer all parts of the question*

Charterer have on offer an LR1 for loading MEG to Japan.

- i) Prepare a counter offer for 70,000 metric tons CPP with details of your choice.
- ii) Discuss the main terms used.
- iii) Discuss the benefits of fixing consecutive employment with this class of ship

b) *Answer all parts of the question*

- i) Explain how WS100 is calculated.
- ii) Provide a fixture recap for a VLCC loading 1SP MEG for discharge 1SP, Japan displaying a Worldscale rate and main terms
- iii) Provide an explanation as to why Worldscale has become an important schedule for Tanker Chartering

*(Candidates can make logical and reasonable assumptions to answer Q4 question)*

Q5) Provide full form and explain each of the term (Any Five) -

- a) BB
- b) ETA
- c) ATDNSHINC
- d) SHEX UU

**PTO**

- e) FIOST
- f) BWAD

Q6) From the following data of tanker ship – prepare voyage estimate for round voyage and calculate Time Charter Yield and NOP per day.

- A) Dead-weight : 143,200 mt
- B) Ports: Load at Seria (Brunei)  
Discharge at Paradip SBM (India)
- C) Speed: 13 knots
- D) Cargo quantity: Minimum 130000 mts +/-5% moloo (vessel to opt plus option)
- E) Freight rate: WS 130 overage 50%
- F) Address commission: 1.25%
- G) Brokerage: 3.75%
- H) Laytime: 84 hours shinc (2 days loading and 1.5 days disch)
- I) Standing charges usd. 15000 per day
- J) Bunker consumptions basis per day are as follows :-

	Laden	Ballast	Loadport	Disport
Ho (mts)	52	50	13	35
Do (mts)	0.5	0.5	1.0	2.0

As per world scale, the details are as follows -

Round distance : 4489 nm  
Flat rate : us\$ 12.79 pmt

As per circular No.47 of the Worldscale, Amended rates for voyages involving Paradip SBM are obtainable by adding USD. 0.23 to all rates for foreign voyages involving this port

Other details-

Bunker rates : Vlsfo – usd. 650 pmt, Mdo - usd. 1000 pmt

Port charges: Seria – usd. 60000  
Paradip SBM - usd. 85000

Q7) Charter-party terms are as below -

- A) Load rate: 10000 MT PWWD SHEX UU IUATC basis 4H/4H, 4cranes
- B) NOR to be tendered if vessel in free pratique customs cleared
- C) Turn Time 6 hours unless sooner commenced
- D) First shifting not to count
- E) Demurrage : USD. 12000 PDPR
- F) Despatch half the demurrage rate on working time saved
- G) Running days of 24 consecutive hours is used

SOF of M.V. "Scorpion King" loaded 50000 MTS of Agricultural Produce from Colombo Port is as follows -

Date	Day	Time (hrs)	
13 February	Fri	1030	Arrived
13 February		1110	Anchored
13 February		1145	Customs cleared
13 February		1150	Free pratique
13 February		1200	NOR
14 February	Sat	1100	POB
14 February		1400	Berthed
14 February		1500	Commenced loading
20 February	Fri	1600	Loading completed
20 February		1730	Documents on board
20 February		1800	POB
20 February		1830	Sailed

Remarks:-

16 February Monday, cargo stopped due to rain from 1100 hrs to 1600 hrs  
 18 February Wednesday a Public holiday loading stopped at 1000 hours and loading recommenced next day i.e. 19 February, Thursday at 0600 hours  
 Calculate laytime used, demurrage or despatch?

-end-

Subject CHARTERING

Q	1	2	3	4	5	6	7	8	9	10	11	12	Total
M	8	10	7½	8	8	14	14						69½

(70)

V. GOOD

WRITE BELOW

ANSWER NO. 7

Cargo loaded = 50000 MT

Rate agreed = 10000 MT PWND SHEX UUIUATI

$$\therefore \text{Laytime allowed} = \frac{50000}{10000}$$

= 5 days.

NOR is tendered after custom clearance & free pratique.

NOR tendered = 13 Feb 1200 LT (Fri)

Turn time = 6 hrs.

So Laytime commences = 13 Feb 1800 LT (Fri)

Day	Date	Time	Time used			Remarks.
			D	H	M	
Fri	13 Feb	1200-1800	-	-	-	1200 NOR tendered
	13 Feb	1800-2400	00	06	00	1800 - Laytime started
Sat	14 Feb	0001-1100	00	11	00	
		1100-1400	-	-	-	First shifting, not to count
		1400-2400	00	10	00	
Sun	15 Feb	0000-2400	00	00	00	Not to count.
Mon	16 Feb	0000-1100	00	11	00	
		1100-1600	-	-	-	Rain
		1600-2400	00	08	00	
Tues	17 Feb	0001-2400	1	00	00	
Wed	18 Feb	0001-1000	00	10	00	Holiday on 10hrs work
	18 Feb	1000-2400	00	-	-	Not to count.

1d 56H

Day	Date	Time	Time used	Remarks
Thurs	19 Feb	0001-2400	1 00 00	
Fri	20 Feb	0001-1600	00 16 00	1600-Loading completed
			2 <sup>d</sup> 72 <sup>H</sup>	

Day  
Disc  
Seria-  
@ Ser  
@ Par  
Paradip  
1 day

Laytime used = 2<sup>d</sup> 72<sup>H</sup>  
= 5 days.

∴ vessel MV SCORPION KING HAS used  
no extra<sup>lys</sup> time, no demurrage or despatch  
is applicable.

NO Demurrage & No Despatch.

### ANSWER NO. 6

Following assumptions have been taken in calculating this numerical.

- Sea voyage days have rounded off to one decimal only.
- 1 days extra allowance has been taken.
- Fuel Reserve = 150 MT;  
FW = 300 MT  
Constant = 200 MT

∴ Worldscale gives round voyage distance.

$$\therefore \text{Distance from Seria - Paradip} = \frac{4489}{2} = 2245 \text{ Nm}$$

$$\text{Days for steaming @ 13 Kts} = \frac{2245}{13 \times 24} = 7.19$$

$$\approx 7.2 \text{ days.}$$

Days & Bunker Calculation :-

Description	Days	HFO Cons 374.4	DO Cons
Seria - Paradip	7.2	7.2 X 52 = 360	7.2 X 0.5 = 3.6
@ Seria Port	2	2 X 13 = 26	2 X 1 = 2
@ Paradip port	1.5	1.5 X 35 = 52.5	1.5 X 2 = 3
Paradip - Seria	7.2	7.2 X 50 = 360	7.2 X 0.5 = 3.6
1 day allowance	1	1 X 50 = 50	1 X 0.5 = 0.5
<b>Total</b>	<b>18.9</b>	<b>862.9 MT</b>	<b>12.7 MT</b>

ROUGH WORK

14.4	HFO	DO
2d	7.2 X 50 = 360	7.2
1.5d	7.2 X 35 = 252	1
1	2 X 13 = 26	2
1	52.5	3
1	50	0.5
<b>18.9d</b>		

Total cost of Bunkers for voyage :-

HFO = 862.9 X 650 = 560,885 \$  
 DO = 12.7 X 1000 = 12,700 \$  
 Total Bunker cost = 573,585 \$

Port charges:

Seria = 60000 \$  
 Paradip = 85000 \$  
 Total = 145,000 \$

Direct operating expenses:

Total Bunker cost = 573,585  
 Total Port charges = 145,000  
 Total DOE = 718,585 \$

DWT / CARGO UPLIFT CALCULATION :-

Deductibles	
HFO	= 863
DO	= 13
FW	= 300
Assumed Fuel Reserve	= 150
Constant K	= 200
<b>Total</b>	<b>= 1526 MT</b>
Allowable DWT	= 143,200 MT
Less Deductibles	= (-) 1,526
<b>Max cargo uplift possible</b>	<b>141,674 MT</b>

4489	14.4d
13 X 24	
862.9	11.7
12.7	150
200	200
200	200
1524.2	
143200	
141675.7	
136500	
Freight	12.79 + 0.23 = 13.02
16920	
X 13000	
2200380	
55009.5	
2255389.5	
NA	2142620.025
-	717385
	1425235
	75409.26

$$\text{cf. cargo limit} = 130,000 \pm 5\%$$

$$\begin{aligned} \therefore \text{Max limit of cargo} & \\ &= 130,000 \times 1.05 \\ &= 136,500 \text{ mt.} \end{aligned}$$

$$\text{Min qty} = (-) 130,000 \text{ mt}$$

$$\therefore \text{Overage} = \underline{6,500 \text{ MT}}$$

### Freight Calculation:

$$\text{WS 100 flat rate} = \$ 12.79$$

$$\text{VRD} = (+) \underline{0.23}$$

$$\text{Revised WS 100} = 13.02$$

$$\begin{aligned} \therefore \text{WS 130} &= 13.02 \times 1.3 \\ &= \$ 16.93 \text{ pmt.} \end{aligned}$$

$$\text{Freight for min qty} = 130,000 \times 16.93 = 2,200,900$$

$$\text{overage qty (@ half rate)} = \frac{6500 \times 16.93}{2} = \underline{55,023}$$

$$\text{Total Gross Freight P} = 2,255,923 \$$$

$$\begin{aligned} \text{Brokerage + commission} &= 1.25\% + 3.75\% \\ &= 5\% \end{aligned}$$

$$\text{less commission} = 112,796 \$$$

$$\begin{aligned} \therefore \text{Net Freight} &= \text{Gross Freight} - \text{commission} \\ &= 2,255,923 - 112,796 \\ &= 2,143,127 \$ \end{aligned}$$

### Gross Operating Profit Calculation:

$$\begin{aligned} \text{GOP} &= \text{Net Freight} - \text{DOE} \\ &= 2,143,127 - 718,585 \\ &= 1,424,542 \$ \end{aligned}$$

$$\text{Time charter Yield} = \frac{\text{GOP}}{\text{No. of days}}$$

$$= \frac{1,424,542}{18.9}$$

$$= 75,372.6 \$$$

or  $TCY = 75,373 \$ \text{ per day}$

NOP per day calculation:-

TCY or GOP / day = 75,373 \$

less standing charges = (-) 15,000

NOP per day = 60,373 \$

$\therefore$  NOP / day = 60,373 \$

### ANSWER NO. 5

(a) BB :- Ballast or Break Bulk

Ballast - When the vessel is not carrying cargo, sea water is taken into tanks to provide stability, to keep SF / BM within allowable limits as per stability calculation & provide 100% min propeller immersion for better ship handling & manoeuvring of the vessel.

Break bulk:-

It can have 2 meanings. First - Break bulk means general cargo i.e. crates, bales, bags etc.

2nd - It can mean discharging the bulk cargo. E.g. Before breaking bulk - before discharging.

Normally freight payments terms / conditions are associated with breaking bulk. E.g.

Freight to be paid before breaking bulk.



(b) ETA :-

- Expected time of arrival.

This is the expected time of arrival for a ship for the destination. Calculated taking voyage distance & expected speed & weather factors into account.

- Emergency towing apparatus

combination of links, chains, steel wire ropes etc. kept in the forecabin store & poop deck to be used in case of emergency to take the vessel out of the port. ETA is required by SOLAS.

(c) ATDN SHINC :-

Any time day night Sunday holiday including

mostly found in time charter party related to delivery & redelivery clauses along with the clause.

E.g. vessel to be delivered upon arrival pilot station Chennai to charterers ATDN SHINC.

(d) SHEXUU :-

Sunday & Holidays excluded unless used.

This abbreviation is mostly used in laytime calculation clause. It means that Sundays & holidays will not be counted for the laytime calculation if no cargo work is going on.

However if cargo operations are in progress on Sunday & Holidays, then

laytime will be counted.

(f) BWAD :- Brackish water arrival draft.

Brackish water means sea water having density between 1.000 - 1.025 t/m<sup>3</sup>.

This term is commonly used for mentioning the drafts for ports having brackish water to agents/port authorities as part of pre-arrival post information.

ANSWER NO. 2

(a) P & I Bunkering clause :-

This clause is normally included in the voyage CP. Under this clause, the shipowner is allowed to deviate from the route for the purpose of stemming bunkers where they are cheap & easily available.

(b) Laycan :- It means laycan laydays commencing & laydays cancelling.

It is a spread or range of dates within which the shipowner has to present his ship at the load port for the cargo operations. In case the ship arrives after the laycan period, its charterer's discretion to accept/reject the ship.

E.g. Laycan 01 / 20 Oct 2023.

(c) Before Breaking Bulk :-

It means before discharging operations are commenced.

Many at times, this term is related with the freight payment term & conditions.

E.g:- freight to be paid before breaking bulk.

(d) IGS:- Inert gas system.

filled in oil tankers to keep the oxygen level below 8% by volume during the laden condition & during discharging while carrying out crude oil washing.

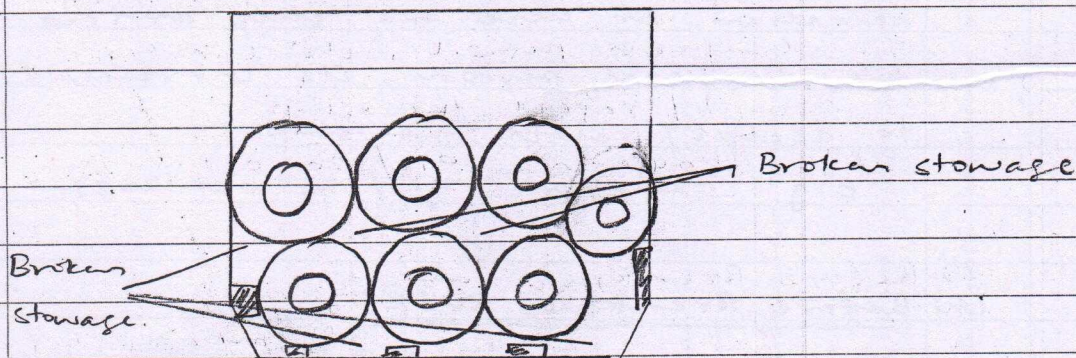
IG is formed on board by using flue (exhaust gases) from the main engine / aux engine exhaust & processed through a system of scrubbers / washers etc to meet IMO requirements.

(e) Broken stowage:-

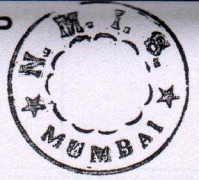
It is the empty space between cargoes which remains unoccupied.

The factors responsible for broken stowage are

- Shape of cargo / cargo hold
- Dunnaging
- Frames / Beams etc.



The more irregular shape cargo, higher the broken stowage.

Month MARCH Year 20 24Subject CHARTERING

Deep

WRITE BELOW

ANSWER NO. 1 (B)DEMISE CHARTER:-

Also known by other name as Bareboat charter.

The shipowner agrees to give control of the vessel to a charterer for a remuneration known as hire for a very long period.

This period can be 10, 15 & upto 20 yrs in some cases.

This kind of chartering is used by the financial institutions like big banks JP Morgan etc to buy ships but since they don't have any ship management experience, they charter their vessel to professional shipping organisations.

In demise charter, the charter is acting like a owner, so he is called DISPONENT OWNER also.

He is responsible for the day to day running (direct & indirect cost) but fixed cost like insurance for H & M, mortgages depreciation etc. is being paid by owner only.

In short.

- Charter acts like owner called DISPONENT OWNER
- Pays hire per day to owner
- Pay maintenance, crew cost & voyage costs.
- owner pays for insurance etc.
- Charter may appoint his own officers if not then he will pay for the officers appointed by owner.
- May change funnel logo (charter color).
- long durations 5-20 yrs.

## ANSWER NO. 1 (c)

(i)

### STOWAGE FACTOR:-

It is the weight volume occupied by a unit weight of the cargo. Normally SF is expressed in  $m^3 / \text{tonnes}$  i.e.  $\text{cbm} / \text{mt}$ .

But due to imperial system being in use from old times unit is  $\text{cbft} / \text{tonne}$ .

E.g. SF of iron is 18  $\text{cbft} / \text{MT}$

SF of wheat is 43  $\text{cbft} / \text{MT}$ .

It is opposite of density. So it means higher the density, lower will be SF & vice versa.

SF is a very important factor for cargo calculation which gives us the idea about how many tonnes can be loaded overall & each cargo compartment.

For lighter cargoes like fertilizers, grains, cargo capacity i.e. holds will be full before the ship is submerged to water. These are known as volume cargoes.

For heavy cargoes like iron ore, ship will be down to her marks before cargo compartments are full. These types of cargo are known as weight cargoes.

In shipping, SF 40  $\text{cbft} / \text{mt}$  has been taken as reference to decide volume & weight cargo. If  $\text{SF} > 40$ , it will be treated as volume cargo & if  $\text{SF} < 40$ , it will be treated as weight cargo.

(ii)

## ANSWER NO. 4 (B)

### (i) WS 100 CALCULATION :-

It is calculated by Worldscale London & New York association for an year. More than 7000 routes are covered for a standard size vsl.

Details are as following

Ship size = 75000 DWT

Speed = 13.5 Kts.

Consumption = 55 mt steaming & additional 100 mt for any other purpose

Port stay = 96 hrs for a load & discharge port  
(additional 12 hrs for any added port)

Bunker rates = as per prevailing rates which are latest ones.

canal transit = Suez canal (30 hrs)  
Panama (24 hrs).

If any other route info & rates are required, same can be obtained by asking worldscale by a number.

There is a membership fee to access WS data.

### (ii) Fixture Recap.

MT DESH PREM DWT 3,10,000 MT 15YRS  
OLD, CARGO 290,000 MAX/MIN BRENT CRUDE  
FOR LOADING IN 1 SAFE PORT IN Mediterranean  
Gulf for discharge in 1 SP Japan.

Freight = WS 120 NO overage. 12.5 \$/mt

Address commission = 1.25%

Brokerage = 3.75%

Leadtime = 72 hrs. (1 day loading  
+ 2 days discharging  
including 12 hrs for cow)

Bunker cons = H0 60 mt / 13 Kts (Laden)  
H0 58 mt / 13.5 Kts (Ballast)  
D0 1 mt at sea

For heating 100 mt allowed for laden port

Port cons = Loadport 35 mt HFO / 20 D0

Disport 80 mt HFO / 2.0 D0

above includes for pumping & cow.

Demurrage = 8000 pdpr

NO despatch

Conoco weather clause applies.

### (iii) WHY WORLDSCALE IS IMPORTANT FOR TANKER CHARTERING:-

- Earlier Negotiation - for a standard size vessel flat rates are given for almost all routes about 7000 routes.
- Routes which are not mentioned, the data can be obtained from worldscale.
- Tanker charter fixing is really fast & WS gives ready solution. The charter terms can be agreed basis WSHCC (worldscale hours, terms & conditions). It saves a lot of time in negotiation.
- It gives rates for transshipment areas as well which are very far located in sea.
- If freight rate is different than WS 100 - same can be easily calculated  
Like WS 130 = WS 100 x 1.3
- Provides ready-made terms & conditions for tanker scheduling.

Month MARCH Year 20 24

Subject CHARTERING

**WRITE BELOW**

(9) Provides changes in the freight calculation via VRD (variable rate differentials) & FRD (fixed rate differentials)

8 Due to above advantages, worldscale has become an important schedule for tanker chartering

ANS NO. 3 (13)

ON SUBJECTS:-

When the EP terms & cond are being negotiated & certain details/ clauses need to be finalised, it is called fixed on subjects.

These subjects act like a condition, so all the time subjects are lifted / removed, the charter party is not finalised.

E.g. subject stow:- means that EP is fixed subject to cargo availability on the agreed laycan period.

subject to approval from BOD:-

means that certain details/ clauses need to be approved from the board of directors.

These subjects play a very important role in chartering fixtures as unnecessary delays can be caused due to these subjects. on the



other hands, more time can be bought by using "ON SUBJECT" & the clauses can be critically examined.

2)

Due to improper analysis, phrasing & wording the clauses have resulted in causing disputes between shipowners & charterers & have resulted in big claims & settlement by arbitration.

So, on subjects must be carefully used & to be used only when really needed.

3)

### ANS NO. 3 (C)

few important clauses appearing in the NYPE & their implication are as mentioned below:-

#### (1) DELIVERY CLAUSE:-

It must be very clearly mentioned like arrival Pilot station (port name). In case there are multiple pilot charges due to long pilotage, it will be very ambiguous. Due to rough weather, vessel will never be able to pick up pilot at first station & not delivered if it does not clearly mention the ~~port~~ pilot station name.

4)

Same applies with port ranges for delivery, if ranges are not defined, it is better to mention the port name.

## 2) ON/OFF SURVEY:-

Instead of mentioning that joint bunker on-off hire survey will be conducted & cost will be split., it should be mentioned that ON-HIRE on charter's a/c & off hire on owner's a/c.

It will avoid any ambiguity & further disputes.

## 3) TRADING LIMITS/EXCLUSION:-

It must be very clearly mentioned as trading beyond IWL may cause owner's monetary losses by paying extra premium.

Same applies for war risk prone areas where additional war risk premium might be needed.

## 4) CARGO INCLUSION/EXCLUSION:-

These must be clearly mentioned as certain cargoes might not be allowed to be loaded on vessel due to exclusion in IMSBC cargo statement.

Additional fittings like fixed CO<sub>2</sub> system might be needed for cargo holds.

Also it might affect vol further employment after redelivery.

E.g. If a vessel is regularly carrying grain, it might be reluctant to load dirty cargoes like potato, coal etc.

(5) MAINTENANCE:-

It must be clearly mentioned that no dry docking during the charter period & no lay up.

Use of terms & language like no major maintenance to be carried out during the tenure is very vague & ambiguous and it results in disputes.

(6) TO BE REDELIVERED IN SIMILAR CONDITION:-

It must be clearly mentioned that holds to be delivered in clean condition instead of using the words like in similar condition.

Suppose a case where the last cargo before redelivery was coal or petroleum & owners are intending to load grain or alumina for next voyage. It will be very difficult for owners & very labour-intensive, time & cost consuming.

1/2