

Name :

Roll No. :

Invigilator's Signature :

CS/MBA(N)/SEM-4 (FT)/PLM-402/2011

2011

CARGO HANDLING SYSTEMS MANAGEMENT

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

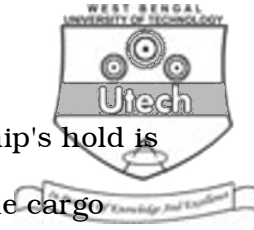
GROUP – A

(Multiple Choice Type Questions)

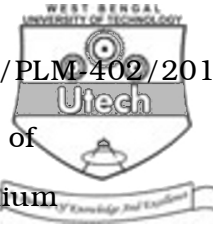
1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) 'Packing closely' of cargo in a ship's hold is known as
 - a) Stowage
 - b) Loading
 - c) Estivage
 - d) Packing.
- ii) Loading/unloading of cargo in/from a ship is known as
 - a) Derricking
 - b) Luffing
 - c) Stewing
 - d) Stevedoring.
- iii) Any protective implement used for safe stowage of cargo in the hold is known as
 - a) Battens
 - b) Pallets
 - c) Dunnage
 - d) Planks.



- iv) Stowage factor of a commodity in a ship's hold is
- a) Ratio of volume with weight of the cargo
 - b) Ratio of volume with mass of the cargo
 - c) Ratio of cargo volume with hold capacity
 - d) Ratio of net tonnage with gross tonnage.
- v) While loading Bulk cargo, angle of repose is desired to be
- a) Smaller
 - b) Bigger
 - c) As small as possible
 - d) As big as possible.
- vi) 'Broken stowage' is related with
- a) lost cargo space
 - b) broken cargo holds
 - c) broken cargo
 - d) lost cargo.
- vii) Ship stability during loading/unloading is dependent upon
- a) height of centre of gravity from base (KG)
 - b) height of centre of buoyancy from base (KB)
 - c) height of met a centre from centre of gravity (GM)
 - d) height of met a centre from base (KM).
- viii) The process of sizing the cargo suited for hand truck in one derrick cycle (30 cwt) is known as
- a) making pallets
 - b) making sets
 - c) containerization
 - d) packing.



ix) Cladding of a container can be made out of

- a) Steel
- b) Aluminium
- c) GRP
- d) all of these.

x) Container T.E.U. refers to

- a) ton equivalent unit
- b) twenty equivalent unit
- c) tonne equivalent unit
- d) traffic equivalent unit.

xi) Life expectancy of a container

- a) 5 years
- b) 8 years
- c) 10 years
- d) 12 years.

xii) Efficient cargo handling is related with

- a) higher specification from shippers
- b) effective containerization
- c) pollution prevention
- d) all of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. State different container sizes available world wide per ISO specifications. What are its principal features ?
3. Sketch a Jib-crane used on a ship. Identify its differnt components.
4. What are different types of cranes used in a modern port ? How berth and reach of a port crane is associated ?

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5. What is a pallet ? Sketch a pallet and state how palletization helps in cargo handling.
6. What are constructive features of 4-gang spreader and top lift hook in connection with container handling ? State with sketches.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. As per UNCTAD specifications, briefly explain features of different types of trailers, trucks, cargo carriers and cranes used in a present day modern port for handling containers by a carrier which is stacking.
8. What are objectives of unitized cargo handling system ? What are the problems and benefits associated with such a system ? State its associated cargo-stacking gears.
9. For bulk cargo handling, explain the reasons for having separate berths for loading and unloading. In this connection sketch and highlight features of :
 - a) Parallel loader
 - b) Radial loader
 - c) Fixed loader.
10. State features of an import berth used for bulk cargo handling. Sketch and briefly explain different type of dischargers and unloaders used for the purpose.
11. Explain features of LASH in connection with cargo handling from ship to port. State particulars of a standard LASH ships and associated barges. What are its inherent advantages ?