

**Candidate's Name:**

**Ports and Maritime Organization  
Examination and Certification Directorate  
Exam Code: CMSC**

**Subject: Ship's Construction**

**Date:**

**Rank: Chief Mate (GT≥3000)**

**Time allowed: 2.5 Hrs**

**Pass mark: 50**

**Q.1)** With reference to welding:

- a)** Explain chain and intermittent welding- processes
- b)** Explain briefly welding faults.

**(10 M)**

**(10 M)**

**Q.2)** Explain how structural discontinuity caused by hatch opening is compensated.

**(20 M)**

**Q.3)** Define following:

- a)** - Sacrificial anodes
- b)** - Ductility
- c)** - Brittle fracture

**(7 M)**

**(7 M)**

**(6 M)**

**Q.4) a-** Sketch a wash bulkhead and what is its application.

**(10 M)**

**b-** Describe watertight floor, its function and tests.

**(10 M)**

**Q.5)** With reference to periodical surveys & inspections:

**a)** Explain the major hull items to be inspected during periodical load line surveys. **(12 M)**

**b)** Define following surveys:

**i)** Annual survey

**(4 M)**

**ii)** Intermediate survey

**(4 M)**

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- Q.1) a-** Sketch a wash bulkhead and what is its application. (10M)  
**b-** Describe watertight floor, its function and tests. (10M)
- Q.2 ) a-** Explain in detail the formation of a corrosion cell. (8M)  
**b-** Briefly explain various methods of cathodic protections. (12M)
- Q.3) a-** With the aid of simple sketch describe the structural arrangements of a watertight door fitted below water line. (12M)  
**b-** Elaborate inspection and maintenance required for watertight door. (8M)
- Q.4)** With regard to load line rules outline the “conditions of assignment”. (20M)
- Q.5)** Explain the different methods of non-destructive test of welding. (20M)