



NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2019

MARITIME ECONOMICS
MARKING GUIDELINES

Time: 3 hours

300 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

QUESTION 1 MULTIPLE CHOICE QUESTIONS

- 1.1 C
- 1.2 C
- 1.3 B
- 1.4 B
- 1.5 D
- 1.6 B
- 1.7 A
- 1.8 D
- 1.9 C
- 1.10 C
- 1.11 D
- 1.12 D
- 1.13 C
- 1.14 A
- 1.15 C
- 1.16 B
- 1.17 B
- 1.18 C
- 1.19 B
- 1.20 D
- 1.21 B
- 1.22 C
- 1.23 C
- 1.24 B
- 1.25 B
- 1.26 C
- 1.27 C
- 1.28 B
- 1.29 A
- 1.30 D

QUESTION 2 THE MARITIME WORLD

- 2.1. Gas oil produces fewer atmospheric pollutants / Polar areas are pristine and must not be polluted)
- 2.2 Expensive / needs highly trained personnel / security / any other)
- 2.3 2.3.1 Multi-directional propulsion
- 2.3.2 Conventional propeller
- 2.3.3 Azipods
- 2.3.4 Dynamic positioning system
- 2.4 2.4.1 Norway (or Norwegian)
- 2.4.2 Distress call (or similar answer)
- 2.4.3 Helicopters available / tugs available / vessel close to shore / any other plausible reason
- 2.4.4 Out of helicopter range / may not be able to launch lifeboats in rough weather / unable to evacuate large numbers of elderly people / may not be other ships nearby / other plausible answer
- 2.4.5 (a) High freeboard / passengers unable to climb ladders / other plausible answer
- (b) Helicopter
- (c) Helicopter from warship could ferry passengers to bulk carrier / large bulk carrier presents a stable platform
- 2.5 Higher cost of Norwegian crews / flagged elsewhere, ships can use foreign crews / more friendly taxation regime / cheaper registration fees elsewhere / other plausible answer

QUESTION 3 SHIPPING OPERATIONS

3.1 3.1.1 Using two discharging units / stability & stress of the ship / easier to land the cargo being discharged (accessibility of discharging units to holds)

3.1.2 Cargo owner / charterer

3.1.3 Manifest

3.1.4. 10

3.1.5 ISPS Code

3.1.6 Time to start discharge = 06:00 on 13/06 + (3 + 1 + 1 + 1 + 6)
= 18:00 on 13/06

Time to discharge Hold 4 = $\frac{9\ 900}{900}$ = 11 hours

Time to discharge Hold 3 = $\frac{9\ 000}{900}$ = 10 hours

Time to discharge Hold 1 = $\frac{6\ 300}{900}$ = 7 hours

Time to finish discharging 18:00 on 13/06 + 28 hours = **22:00 on 14/06**

3.1.7 22:00 on 14/06 + (1 + 3 + 26 + 4) = **08:00 on 16/06**

3.1.8 Ship's agent / Travel company / Doctor / Port Authority / Bunker company

3.2 3.2.1 Longer via Panama / More fuel / More expensive canal fees

3.2.2 (a) 3 days × 10 knots × 24 hours = **720 nautical miles**

(b) $8\ 640\ M - 720\ M = \frac{7\ 920\ M}{15\ knots} = \frac{528\ hours}{24\ hours} = 22\ Days + 3\ Days = \mathbf{25\ Days}$

(c) 25 days × 42 tons = **1 050 tons**

(d) 1 050 tons × \$321 = **\$337 050**

(e) 2 710 tons – 1 050 tons = **1 660 tons**

(f) Bunker

3.3 3.3.1 Four

3.3.2 Any TWO pieces of information that will appear on the front of the Bill of Lading

3.3.3 (a) 20:00 on 26/07

(b) Lloyds Open Form (or LOF)

3.3.4 (a) Surveyors representing the following:
Cargo Insurers / P&I Club / Hull & Machinery

(b) Yes

(c) Ship was in imminent danger / possibility of oil pollution if she had not refloated the ship / weather would deteriorate / Any other plausible reason

3.3.5 Total value ship & cargo = \$52 000 000 + \$2 750 200 = \$54 750 200
Value of Angelos Construzione = \$230 000 + 360 000 + 550 000 = \$1 140 000

Share of Angelos Construzione = $\frac{\$1140\ 000}{\$54\ 750\ 200} \times \$7\ 320\ 000 =$
\$152 415.88

QUESTION 4 INTERNATIONAL MARITIME TRADE

4.1 More containers of car parts being landed / More containers of tyres being landed / More ro-ro ships arriving to load export cars / More container trucks will be moving to and from the harbour / Container terminal will become busier / Any other plausible answer

4.2 4.2.1 $3\ 000 \times 5 =$ **15 000 tyres**

OR (also allowed)

$3\ 000 \times 4 =$ **12 000 tyres**

4.2.2 $\frac{15\ 000}{300} =$ **50 containers**

OR (also allowed)

$\frac{12\ 000}{300} =$ **40 containers**

4.2.3 NO

- 4.2.4 Only 50 containers a month / Too few to warrant the chartering of a ship
- 4.2.5 More jobs / Boost spending power of people / Boost normal commerce / Require sufficient services for workers (e.g. housing, schools, utility services) / Satellite industries will develop (e.g. seat manufacturing, paint distributors, etc.) Any other plausible spin-off for the area
- 4.2.6 Build car export terminal / ensure container terminal can accommodate additional containers
Ensure road network can support the number of container trucks moving to and from the port / Ensure that sufficient tugs (and sufficiently powerful tugs) are available to handle containerships / Harbour has sufficient workers at the various levels
- 4.3 4.3.1 Singapore with its oil refining, container hub, etc. is close by / Part of a major container & bulk trade route between Europe and India, and Far East / Part of major oil route from Gulf to Far East / Any other plausible reason for the route being important
- 4.3.2 (a) Singapore
- (b) Indian Ocean (or Bay of Bengal)
- (c) South China Sea
- (d) Oil
- (e) Meat
- 4.4 4.4.1 Plastic does not break down quickly / devoured by sea creatures
- 4.4.2 Land activities (or washed into the sea by rivers)
- 4.5 4.5.1 MARPOL
- 4.5.2 STCW 95/2010
- 4.5.3 SOLAS
- 4.5.4 ISPS
- 4.5.5 MARPOL

QUESTION 5 MARITIME ENVIRONMENTAL CHALLENGES

- 5.1 Ballast water was taken in Shanghai / That water contains local organisms / If those are discharged in Vancouver, they could upset the marine ecosystem / Therefore ballast water needs either to be treated or ballast tanks need to be emptied and refilled during the passage to Vancouver
- 5.2 5.2.1 Wind will strengthen
- 5.2.2 Swell will increase in height
- 5.2.3 If wind increases, container operations may have to stop
- 5.3 Marine food chain should not be disturbed / Overfishing of one species will upset the food chain / Breeding stock will be taken out / Numbers of some species may be depleted / Future fish stocks will not be sustainable

Total: 300 marks