EXAMINER'S REPORT
NOVEMBER 2018

OFFSHORE SUPPORT INDUSTRY

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1. Using diagrams (profile and a plan) to support your answer, describe and identify the main features and equipment of a Diving Support Vessel suitable for undertaking saturation diving operations.

Students were expected to demonstrate a general understanding of a saturation diving system, in particular that it is integral to the ship providing a life support system for 12 – 24 divers on a 24/7 basis – hence divers living and working for extended periods at working dive pressure.
From this broad perspective more detail should follow – Sat Chambers/Transfer Chambers; Diving Bells; Hyperbaric Lifeboats; Decompression Chambers; Moonpools etc.
Highlighting the difference between shallow water air diving and deep water mixed gas diving would also be expected.
Operational details – depths, use of DP3, subsea cranes, ROV's etc. should also be included together with some description of the type of operations undertaken.

2. Explain FOUR of the following terms/acronyms.
i) Maintenance Days
ii) ROV
iii) VLS
iv) A-Frame
v) Dodging
vi) Subsea Completion

i. Maintenance Days - A contractual agreement that grants the vessel owner the right to undertake maintenance of the vessel while on charter
ii. ROV – Remotely Operated Vehicle - Used to undertake subsea operations and can operate at great depths beyond that of divers.
iii. VLS - Vertical Lay System flexible pipe or cable laying system consisting of a vertical tower over a moonpool, facilitating deep water deployment without overstressing cable/pipe.
iv. A-Frame - lifting gantry mounted on the stern of an OSV used for launch and recovery of subsea equipment.
v. Dodging - Steaming slowly back and forth within a certain area/location waiting for the next operation to commence often referred to as Waiting on Weather (WoWing)
vi. Subsea Completion - A wellhead or a number of wellheads that are terminated on the seabed rather than on the platform.

3. Explain the purpose and significance of OVID and CMID, and discuss how and when they are used.

Students were expected to describe these two industry inspection tools and how both audit/inspection systems assesses the capability of the vessel and it's management with an emphasis on operation of Safety Management Systems and compliance with the ISM/ISPS codes.

OVID – Offshore Vessel inspection Database.

Universal database of OSV inspections developed by OCIMF.
Providing assurance for charterers on the selection of OSVs by provision of a web-based inspection tool and a database of inspection reports.
Inspections undertaken by OCIMF accredited inspectors.
Online reporting system to avoid the requirement of repeated vessel audits by different charterers.

CMID – Common Marine Inspection Document.

A vessel auditing document developed by IMCA that assesses an OSV relative to:

Compliance with statutory requirements.
Compliance with non – statutory industry guidelines.
Suitability for the intended workscopes – 'fit for purpose'

4. Describe a typical fixture note or booking letter for a rig move or cargo run, stating the charter party and referencing FOUR clauses which could be amended.

The student is expected to understand what should be included in a fixture note or booking letter and present it in a proper format.
Students who demonstrated understanding of standard clauses that are less appropriate in short spot fixtures and how they can be excluded/amended when producing an 'ad hoc' form gained higher marks.

5. Using the world map provided show an area of oil and gas activity and analyse the range of ports within that area including distances to offshore locations and their facilities to support the offshore industry. Comment on the factors which you consider will impact on future growth and development.

Students were required to identify an area with significant offshore operations and listing ports with distances/steaming times to locations.
The port descriptions should include facilities such as: Quay space, Water depth, Safe berths/shelter, Storage areas, Transit sheds, Quayside equipment, Specialist services/contractors, Bunker availability, Ship Repair/Dry-dock facilities, Tidal/non-tidal, Safe anchorage, Port charges/ships dues/pilotage.
Some evaluation of potential growth and development was also expected which could include: Availability of dockside labour, Hinterland – support industries, Congestion/turn-around times, Ease by which new companies can acquire premises/establish presence, Local conditions/transport infrastructure/housing costs, Political situation/risks, Security threats, Cabotage, Investor confidence/ease of raising capital

6. Explain the purpose of a Mutual Hold Harmless Agreement. Discuss its inclusion in a charter party with examples of how it could apply in practice.

Students should demonstrate awareness that the purpose of a MHHA is to establish a legally binding set of provisions between the vessel owner (including all their sub-contractors) and the charterer and the charterer's sub-contractors.
KK indemnities should be discussed explaining they are usually incorporated into a contract by a MHHA to extend the indemnity to cover sub-contractors and agents of each party.
They should describe the extensive use of KK indemnity as a mutual or reciprocal indemnity within the offshore industry highlighting where problems can arise - awareness that principle is a variation of the principle of strict liability; 3rd party claims
The explanation should convey Key concept behind KK – avoiding the complexity and delay to resolution of claims not just in high legal and court costs but also loss of production, rig, vessel downtime due to requirement for extensive in situ investigations.

7. A ship operator with extensive experience in the offshore oil support industry has approached you with a request for a broad perspective of the offshore renewable energy industry. Write a report providing a general overview of the OREI.

This question was looking for the student to demonstrate general awareness of the current state of the OREI industry.
They were expected to describe the range of installations: Offshore wind (fixed and floating), Tidal systems, Wave systems.
They should be aware that offshore wind currently dominates the sector.
Students who could provide some general technical detail scored well ie. water depths, fixed/floating installations, huge increase in turbine output, blade diameters etc.
Some discussion of vessel types supporting the industry was needed:
Survey vessels/guard vessels; Construction vessels/heavy lift; Specialist OCVs due to a lot of construction in shallow waters; Anchoring/mooring systems usually deployed by conventional AHTS; Tidal and wave systems generally constructed onshore and towed to location and anchored.
Explaining some key differences from the O&G industry was expected: No fuel or provisions and little maintenance requirement so much less attendance required; Maintenance crews generally transported by Crew Transfer Vessels (CTV) – small workboats (often catamaran design) making fast transit from shore to location; Industry generally accepted as working at a much lower operational cost level than O&G.
Recognition of NW Europe and the China/Far East as most actively involved in OREIs also scored additional marks

8. A ship owner is considering a new build vessel for a long term multi-purpose/stand-by role with a major oil company. Environmental impact and efficiency have been stressed as key elements in the vessel specification. Discuss what recommendations you would make for the vessel's specification.

The student was expected to be aware that most OSVs normally feature multi-engine and multi-thruster propulsion arrangements for good station-keeping/ship handling and to ensure sufficient redundancy and understand the range of propulsion options for OSVs: Conventional Direct Drive; Diesel Electric; Hybrid
The key to answering well was to understand the major environmental issues and relevant codes and conventions:

The student should be aware of the Classification Societies issuing ‘Clean’ and ‘Clean Design’ notation
Key issues relating to the environment should be included covering emissions to air, discharges to sea and deliveries ashore.