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BNA-021

00165

B.Sc. (NAUTICAL SCIENCE)

Term-End Examination

June, 2014

BNA-021 : NAVIGATION III (NAVIGATION AND CHART WORK)

Time : 3 hours *Maximum Marks : 70*

Note : *All questions are **compulsory**. Use of non - programmable scientific calculator is **allowed**. Use BA chart 2675 (English channel). Tidal curve diagram / graph to be provided by the examination centre.*

SECTION - I

1. Define : **10**

GHA, SHA Declination and first point of Aries and first point of Libra.

2. Find GHA of Canopus on 21st July 1992 at 1420 Hrs GMT. What is the LHA of Canopus if longitude was 79° 12' (W) ? **5**

3. In DR 15° 32' Ⓢ 10° 45' W on 14th June 1992 at GMT 1115 Hrs Sext Alt of Sun's L.L. was 45° 30'. HE 10 m, IE 2.5' (on the arc). Find the direction of PL and position through which it passes. **10**

4. On July 21st 1992 in DR 25° 17' Ⓢ 87° 22' Ⓔ. Sextant meridian altitude of Sun's L.L. was 44° 22'. HE 12 m IE 1.5' on the arc. Find observed latitude and state direction of PL. **10**

SECTION - II

5. Vessel in position 48° 49' N 5° 29' W was to reach 6' Ⓢ of channel light vessel. The current sets SE at 3 knots. Find the course to steer in the prevailing current ship speed 12 kts. **10**

6. A vessel at 1000 Hrs observes start point light house to bear 310° Ⓣ and at 1130 Hrs it bears 017° Ⓣ. Current setting 150° × 3 knots. Find the vessel's position at 1130 Hrs. Ship speed 12 kts. **10**

7. Find the height of tide at 1115 Hrs on 25th April 1992 at Lisbon (Zone Time). **10**

8. Draw the **symbols** for the following : **5**
   (a) Tidal Stream
   (b) Submarine Cable
   (c) Platform
   (d) Nature of Sea Bed (Sand)
   (e) Pilot Boarding Station