

Please check whether you have got the right question paper.

NOTE : ALL QUESTIONS ARE COMPULSORY EACH QUESTION CARRY 15 MARKS.

Q.1) :- (a) In a spherical Triangle ABC, $\angle A = 40^\circ 44'$, side $a = 36^\circ 13'$, $\angle C = 90^\circ$ calculate b, c & $\angle B$ (10)

(b) Explain KEPLER second laws of planetary motion. (5)

Or

(a) In a quadrant spherical triangle PZX, side $x = 90^\circ$, side $z = 73^\circ 12'$ Calculate $p, \angle P$ and $\angle Z$ (10)

(b) Explain STELLAR magnitude. (5)

Q.2) :- (a) From the following observation In DR $15^\circ 02'N$, $075^\circ 39'W$, find the position of the vessel. (15)

1) 0135 Long $075^\circ 42.7'W$ -AZ 331° (T)

2) OBS Long $075^\circ 38.1'W$ -AZ 115° (T)

3) OBS Long $075^\circ 32.8'W$ -AZ 227° (T)

Or

(b) How day & Night occur? Also how seasons are caused of earth explain with the help of diagram? (15)

Q.3) :- (a) On 29th Nov 1992, In DR $26^\circ 27'N$, $130^\circ 27'W$, the sextant Altitude of The Sun UL east of meridian was $28^\circ 11'$ when Chron (Error 01m 31s Fast) Showed 05h 49m 20s if HE was 10 mtr and 1E was 2.3' off the ARC, calculate the direction of PL and intercept. (15)

Or

(b) On 17th JAN 1992, AM at ship In DR $31^\circ 41'N$, $100^\circ 10'E$, the sextant Altitude of The Venus $19^\circ 48.6'$ when the Chron (Error 02m 06s Fast) Showed 11h 41m 44s if 1E was 2.1' on the ARC and HE was 12 nmr, find Direction of the PL and a position through which to draw It. (15)

Q.4(a) On 29th NOV 1992, AM at ship In DR $26^{\circ} 27'N$, $130^{\circ} 27'W$, the Azimuth of the Sun was $130^{\circ} \odot$ when Chron Showed 05h 49m 20s if Chron Error was 01m 31s Fast and variation was $3^{\circ} E$. find the Deviation for the Ship's Head. (15)

OR

(b) On 4th 1992, In DR $45^{\circ} 10'N$, $120^{\circ} 30'W$, the sextant Meridian Altitude of the Star ANTARES was $18^{\circ} 26.2'$. if HE was 10 mtr and IE was 3.2' off the ARC. Find the Latitude and State the Direction of PL. (15)

Q.5 (a) Explain the phases of the moon with the help of Diagram. (15)

OR

(b) Explain the principle of Sextant with the help of Diagram. (15)
