

Q.P. Code : 23003

[Time: 2:30 Hours]

[Marks:75]

Please check whether you have got the right question paper.
N.B: ALL QUESTIONS ARE COMPULSORY. MARKS ARE INDICATED AGAINST EACH QUESTION.

Q.1. a) How are the clouds formed? Sketch and describe turbulence, orographic Lifting. **(15)**

OR

b) What are Seven Isobaric patterns? Sketch and describe "Anticyclone", "Col". **(15)**

Q.2. a) Explain: (i) Convergence & Divergence, (ii) Sea breeze and Land breeze. **(15)**

OR

b) General characteristics of Cold and Warm Front. **(15)**

Q.3. a) Describe the classification of Air-Masses and state their properties regarding Temperature and Humidity. **(15)**

OR

b) Sketch and describe "Anabatic" and "Katabatic" winds and NE'ly monsoons of Bay Of Bengal. **(15)**

Q.4. a) Course 160° speed 10 knots. Direction of wind (Obtained by observing line of Waves) was 270°. Wind speed by shipboard anemometer was 17 knots. What direction and force of wind is to be entered into the ship's log book. **(15)**

OR

b) Course 200° speed 14 knots. True wind 300° at 18 knots. Find the direction and speed of apparent wind. **(15)**

Q.5. a) i) State advantages and disadvantages of double hull tankers.
ii) Give MARPOL 73/78 definitions of: Special Areas & Solidifying Substances. **(15)**

OR

b) Describe ORB. What entries are to be made in ORB - Part I. **(15)**
