

AQ - 2805

First Semester M. E. (Civil) Transportation Engg. and Management Examination

**DOCKS HARBOUR AND AIRPORT ENGINEERING**

Paper - 1 SFTR 4

P. Pages : 3

Time : Three Hours ]

[ Max. Marks : 80

- Note :** (1) All questions carry equal marks.  
(2) Assume suitable data wherever necessary.  
(3) Illustrate your answer wherever necessary with the help of neat sketches.  
(4) Answer any **Five** questions.  
(5) Use pen of Blue/Black ink/refill only for writing the answer book.

1. Attempt any **two** :—

- (a) Write a critical note on water transportation with their merit and demerits. 8  
(b) How are harbours classified on the basis of location? 8  
(c) Explain the factors which govern the choice of site for a harbours. 8

2. Attempt any **Two** :—

- (a) How are waves classified? Explain the generation and movement of a sea waves. 8  
(b) Distinguish between the following :—  
(1) Spring tides and neap tides.  
(2) Waves of oscillation and waves of translation. 8  
(c) Explain the following terms :—  
(i) Littoral drift.  
(ii) Spring tide. 8

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3. Attempt any Two :—

- (a) Define a breakwater and explain its classification. 8
- (b) What is the difference between tidal basin and wet dock ? Mention the advantages in each case. 8
- (c) Describe in detail various types of floating docks. 8

4. Attempt any Two :—

- (a) Write a short note on following :
  - (1) Wharf.
  - (2) Dolphin.
  - (3) Jetty. 8
- (b) Why are signals necessary in harbours? Describe various types of harbour signals? 8
- (c) Define 'dredging'. Explain the reasons for its adoption. How is the dredged material disposed off ? 8

5. Attempt any Two :—

- (a) Explain in brief :
  - (1) Gate capacity.
  - (2) Runway capacity. 8
- (b) What are the characteristics of aircraft? Explain in detail. 8
- (c) What are the three components of an air traffic control network? Explain any one in detail. 8

6. Attempt any Two :—

- (a) Explain in brief –
  - (1) Optimum location of exit taxiway.
  - (2) Critical holding apron capacity. 8

(b) Explain the factors to be considered in the geometric design of a runway?  
8

(c) What are the function of taxiways ? Explain the terms :—

(1) Apron Taxiway.

(2) Dual parallel taxiway.

(3) Terminal taxilane.

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