M.E. First Semester (Civil Engg. (Transpo. Engg. & Manag.) (New CGS)

13106 : Docks Harbour and Airport Engineering : 1 SFTER 4

P. Pages : 1 **AW - 3773**

Time : Three Hours * 0 3 7 2 * Max. Marks : 80

Notes : 1. All question carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.
5. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Discuss development and demerits of water transport in India. **8**

b) Differentiate between neap tide and spring tide. **8**

2. a) Explain various gates provided to a part. **8**

b) Explain the following terms :- **8**

i) Littoral drift. ii) Spring tide.

3. a) Explain the following terms : - **8**

i) M.S.L. ii) L.W.S.

iii) H.W.S.T. iv) M.L.W.T.

b) What are the floating signals? Describe various types of floating signals. **8**

4. a) Explain the various aircraft characteristics. **8**

b) Explain impact of port activities on the development of the region. **8**

5. Attempt **any two.**

a) What are the element of airport lighting? Explain the visual requirements of approach lighting with neat sketch. **8**

b) Explain various enroute air traffic control aids. **8**

c) Describe briefly the geometric standard of design of a taxiway. Design an exit runway joining a runway and parallel main taxiway. The total angle is 30° and maximum turn off speed 70 kmph. Assume. **8**

i) Radius of entrance curve = 700 m

ii) Runway width = 40 m.

iii) Taxiway width = 20 m.

6. Attempt **any two** :-

a) Explain in brief - optimum location of exit taxiway. **8**

b) In which case you will prefer new airport instead of improvement in existing one. Describe factors to be considered in airport site selection. **8**

c) The runway length required for landing at sea level in standard atmospheric conditions in 3500m. Runway length required for take off at a level site at sea level in standard atmospheric condition 3000m. Aerodrome reference is 25°C and standard atmosphere at aerodrome elevation of 150m is 14°C. If the effective runway gradient is 0.5 percent, determine the runway length to be provided. **8**

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