Roll No												

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

PRESIDENCY UNIVERSITY
BENGALURU

SET B

SCHOOL OF ENGINEERING

END TERM EXAMINATION, JAN 2024

Semester: SEMESTER VII - 2020
Course Code: CIV 2023
Course Name: Airport Engineering and Harbour
Program & Sem: BTech VII Sem

Date : 05-JAN-2024
Time : 9:30AM - 12:30 PM
Max Marks : 100
Weightage : 50%

Instructions:

(i) Read the all questions carefully and answer accordingly.
(ii) Scientific and Non-programmable calculators are allowed

Part A [Memory Recall Questions]

Answer all the Questions. **(4Qx5M= 20M)**

1. Determine the turning radius of a taxiway for an aircraft with a wheel base of 27m, and distance between the mid-point of main gear and pavement edge as 9m, for a design speed of 70kmph. Assume coefficient of friction as 0.14 and width of taxiway as 20m? (CO1) [Knowledge]
2. What are the drawings to be prepared before starting an airport construction? (CO1)[Knowledge]
3. List the various types of airport lighting (CO2)[Knowledge]
4. What are the different types of dry docks? (CO3) [Knowledge]

Part B [Thought Provoking Questions]

Answer all the Questions. **(5Qx10M=50M)**

5. Explain the various surveys conducted before the construction of an airport (CO1)[Comprehension]
6. What are the systems of aircraft parking followed at the airport premises? Explain with sketch (CO2) [Comprehension]
7. What are the different types of failures in flexible pavement? (CO2) [Comprehension]
8. What are the advantages and disadvantages of water transport? (CO3) [Knowledge]
9. What are the requirements of a good harbour? (CO3) [Comprehension]

Part C [Problem Solving Questions]

Answer all the Questions. **(2Qx15M=30M)**

10. a) What are the types of aircraft parking adopted near the terminal building?

b) An airport has 5 gates which are available for all the aircraft. It serves three classes of aircraft having mix and average occupancy time during peak hour as below. If the maximum gate utilization factor is 50%, find the capacity of the gates at this airport to process the aircraft.

Aircraft Class	Mix (%)	Average Occupancy Time in Minutes
1	20	60
2	25	45
3	25	30
4	30	20

(CO2) [Application]

11. a) Define breakwater.

b) What the forces considered for the design of a breakwater?

c) Explain the different types of breakwater. (CO3) [Application]