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PRESIDENCY UNIVERSITY BENGALURU

SCHOOL OF ENGINEERING

SUMMER TERM END TERM EXAMINATION – AUG 2024

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| **Semester : Summer Term 2023-24** | **Date : 07-08-2024** |
| **Course Code : CIV2023** | **Time : 1:00PM to 04:00PM** |
| **Course Name : Airport Engineering & Harbour** | **Max Marks :100** |
| **Program : B.Tech** | **Weightage :50%** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

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| **PART A** | | | |
| **ANSWER ANY 4 QUESTIONS 4Q X 5M=20M** | | | |
| 1 | List down any 5 components of an airport. Briefly explain the same. | (CO1) | [Knowledge] |
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| 2 | Write a note on Turning radius in taxiway. | (CO2) | [Knowledge] |
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| 3 | List out 5 disadvantages of air transport system. | (CO1) | [Knowledge] |
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| 4 | List out 5 failures in rigid pavements. | (CO2) | [Knowledge] |
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| 5 | List out the requirements of gradient. | (CO2) | [Knowledge] |
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| 6 | Write a notes on docks. | (CO3) | [Knowledge] |
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| **PART B** | | | |
| **ANSWER ANY 4 QUESTIONS 4Q X 10M=40M** | | | |
| 7 | Airport markings and lighting help pilots navigate the runway and taxiway. Write a detailed note on airport markings and lighting with diagrams. | (CO2) | [Comprehension] |
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| 8 | Water transportation is the international movement of water over large distances. Methods of transportation fall into three categories. List out the advantages and disadvantages of water transport. | (CO3) | [Comprehension] |
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| 9 | Major ports typically have facilities for cargo handling, container operations, and vessel loading and unloading.  Explain any 10 facilities at a major port. | (CO2) | [Comprehension] |
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| 10 | A port facility is a land or water area where ships are loaded and unloaded under security regulations. Port facilities can include Wharves, Berths, Quays, Anchorages, Cranes, Storage areas, Tanks, Pipelines, Conveyors, and Rail infrastructure. Explain wharves and quays in port. | (CO3) | [Comprehension] |
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| 11 | Marine fenders and mooring systems are used in ports and docks to help vessels dock and moor safely. Explain about fenders and moorings in detail. | (CO3) | [Comprehension] |
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| **PART C** | | | |
| **ANSWER ANY 2 QUESTIONS 2Q X 20M=40M** | | | |
| 12 | A. Harbour is partly enclosed area which provides safe and suitable accommodation for supplies, refuelling, repair, loading and unloading cargo. The problem is to build a semi natural harbour. Explain different component parts of a harbor in detail with neat diagram. Also explain different types of breakwater in detail. (15Marks)  B. List out the classification of harbour. (5Marks) | (CO3) | [Comprehension] |
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| 13 | Knowledge of airport engineering is needed to solve a problem of airport design work wrt planning of taxiway, runway. In this context present a detailed note on the following topics:  a) Taxiway design  b) Drawings to be prepared in airport survey  c) Runway orientation  D) Runway correction | (CO2) | [Comprehension] |
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| 14 | Calculate the actual length of the runway from the following data:  Airport elevation: RL 100m  Airport reference temperature: 28 deg C  Basic runway length: 600m  Highest point along the length: RL 98.2  Lowest point along the length: RL 95.2 | (CO1) | [Comprehension] |
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