

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Eighth Semester B.Tech Degree Regular Examination June 2023 (2019 Scheme)

Course Code: CET438

Course Name: AIRPORT, SEAPORT AND HARBOUR ENGINEERING

Max. Marks: 100**Duration: 3 Hours**

PART A

Answer all questions, each carries 3 marks.

- | | | Marks |
|----|--|-------|
| 1 | Enlist component parts of an airport. | (3) |
| 2 | How is airport planning affected by aircraft turning radius? | (3) |
| 3 | Differentiate between hanger and apron. | (3) |
| 4 | Explain the term cross wind component and calm period | (3) |
| 5 | Distinguish between approach zone and clear way | (3) |
| 6 | What are objectives of air traffic control? | (3) |
| 7 | Draw the layout of harbour and mark salient features | (3) |
| 8 | Distinguish between piers and wharfs. | (3) |
| 9 | Distinguish between dry dock and wet dock | (3) |
| 10 | What are the functions of navigational aids of a harbour? | (3) |

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

- 11 a) Discuss the factors to be considered for airport site selection. (7)
b) Discuss the ideal requirements of airport lay out. (7)

OR

- 12 a) What are the classifications of runway as per ICAO? (7)
b) Explain the various aspects to be taken care of while planning an airport as per ICAO recommendations. (7)

Module II

- 13 a) Calculate the actual length of the runway from the following data: (7)
Airport elevation R.L. 100. Airport reference temperature 28°C. Basic length of runway 600 m. Highest point along the length R.L. 98.2. Lowest point along the

length R.L. 95.2. Standard atmospheric temperature at MSL 15⁰C. (Temp gradient 6.5⁰C per 1000m rise in elevation)

- b) Enlist the various assumptions of fixing basic runway length (7)

OR

- 14 a) List the different types of runway patterns/ configurations with the help of diagrams (7)
b) Explain any one method of fixing orientation of runway using wind rose diagram. (7)

Module III

- 15 a) Explain the salient features of lighting of runway approaches (7)
b) How are (i) Runway Threshold markings and (ii) Runway Central line markings executed on a typical airport? (7)

OR

- 16 a) Discuss the various features of Instrument landing System (ILS) (7)
b) Write short note on navigational aid systems in air traffic control (7)

Module IV

- 17 a) What are the factors affecting the selection of site for harbour (7)
b) Explain the requisites of good harbour (7)

OR

- 18 a) Briefly discuss the design and construction aspects of break waters (7)
b) Explain the features of quays and jetties (7)

Module V

- 19 a) Explain types, functions & design considerations of wet docks (7)
b) Explain the following i) floating docks ii) graving docks (7)

OR

- 20 a) Explain the features and design considerations of Dry docks (7)
b) Explain working of Wet docks in tidal basins with help of diagram (7)
