

Roll No. ....

23279

M. Tech. 2nd Semester (Civil Engineering)  
(Transportation Engg.) Elective-III  
Examination – June, 2023  
PLANNING AND DESIGN OF AIRPORTS

Paper : CE-644

Time : Three hours ] [ Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all. All questions carry equal marks.

1. (a) Give classifications of airports as per ICSO. 10  
(b) What are the factors which influence the location or site selection of an airport ? 10
2. (a) What environmental factors which are considered in the development of a new airport ? 10  
(b) Discuss the importance of the turning zone with the help of neat diagram showing its profile. 10

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3. (a) Calculate the actual length of the runway from the following data :

Airport elevation: RL 100, Airport reference temp: 28°C, Basic length of runway: 600m, Highest point along the length: RL 98.2, Lowest point along the length: RL 98.2. 10

- (b) What are the points considered in geometric design of a runway ? 10

4. (a) What is the function of taxiway in airports ? Draw cross-section of taxiway showing all components. 10

- (b) What are the principles which govern the design of exit taxiway connecting runway and parallel taxiway ? 10

5. Give reasons for the following : 20

(a) The loading apron is also known as parking apron.

(b) the smaller angles of turn are preferable.

(c) The limiting length of taxiway should be as short as possible.

(d) The holding aprons are made large enough.

6. Explain concept of planning the terminal building. What are the basic requirements to be kept in mind while deciding the site for terminal building ? 20

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7. (a) Describe FAA method of designing flexible pavements. 10

- (b) Discuss the failures in flexible pavements wrt to following components : 10

(i) subgrade

(ii) wearing course

8. (a) Briefly discuss the various elements of the airport lighting. 10

- (b) What are the essential features of the taxiway marking system ? 10

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