

Q. No. **Module 3** **Marks**

3. a Justify the need of land use- transport models in planning process. **3**

Answer b or c

b State the limitations of Lowry model? Explain the contributions made by Garin, Wilson and Putman in Lowry Landuse transport model. **6**

c Elaborate the basic equation systems of the Lowry's model of land use. **6**

Q. No. **Module 4** **Marks**

4. a What are the major methods adopted for collecting data for freight transportation planning? **3**

Answer b or c

b With the help of a flow chart explain multi-step freight planning models. Explain its sub-models and data inputs. **6**

c i. Write short note on intermodal freight transportation. **6**

ii. Explain how input output models are useful in freight demand planning

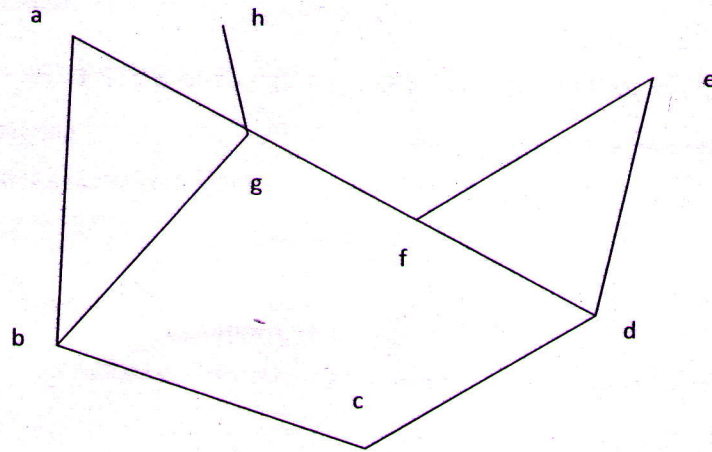
Q. No. **Module 5** **Marks**

5. a Write a note on 'Minimum spanning tree' and 'Greedy triangulation' and their relevance in network generation. **4**

Answer b or c

b Elaborate the various measures used for transportation network analysis with a suitable sample network. **8**

- c Explain the role of α , β and γ indices in the network theory. Obtain the same for the given plane graph. 8



Q. No.	Module 6	Marks
6. a	Distinguish between corridor route, residential route, activity route and transfer route.	4
Answer b or c		
b	Explain various activities involved in public transportation planning.	8
c	Transit network design problem is considered by planners as an optimization exercise. Justify the statement.	8