

SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

**Technical Officer - Written Examination
July 2019**

Maximum Marks: 50

NOTE: All questions carry equal marks
Write correct option in the space provided against each question

Application No.:

(To be entered by
Invigilator)

Name of the Candidate:

| QNo | Question | Ans |
|-----|---|-----|
| 1. | Geographical distribution of traffic in a city reveals A) Traffic Speeds B) Road network usage C) Accident Profile D) Parking Facilities | |
| 2. | Screen Line counts are essential for A) Checking accuracy of traffic speed data B) Checking accuracy of traffic flow data C) Estimating traffic congestion at mid block sections D) Checking accuracy of home interview survey data | |
| 3. | Travel Demand is considered to be A) Derived demand based on activity intensity and pattern B) Direct demand based on number of registered vehicles C) Direct demand based on city population D) Derived demand based on number of households | |
| 4. | Which one of the following is considered as signature of a city? A) Condition diagram B) Desire Line diagram C) Trip length frequency diagram D) Time space diagram | |
| 5. | What is the unit of analysis in four stage travel demand modelling? A) Head of the family B) Vehicle owner C) Household Size D) Traffic zone | |
| 6. | In a medium city with a population of 8,00,000 living in 2,00,000 households, total passenger trips observed from Monday to Friday are 60,00,000. What is the average trip rate per day and number of trips made by an average household per day? A) 1.5 and 6 B) 2.0 and 6 C) 1.5 and 8 D) 2.0 and 8 | |
| 7. | A transportation modeler developed trip distribution model for a city. Developed | |

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| | <p>model demonstrated the following:</p> <ul style="list-style-type: none"> i. Model predicted total trips = Observed total trips from HIS data ii. Model predicted trip productions = Observed trip productions from HIS data <p>Which of the following model is used by the developer?</p> <ul style="list-style-type: none"> A) Unconstrained Gravity Model B) Fully constrained Gravity Model C) Production constrained Gravity Model D) Attraction constrained Gravity Model | |
| 8. | <p>In transportation planning exercise, travel time ratio is defined as ratio of the travel time by public transport and travel time by private car. As the travel time ratio increases, the public transport share:</p> <ul style="list-style-type: none"> A) First increases and then decreases B) Increases C) Decreases D) First decreases and then increases | |
| 9. | <p>In any urban transportation planning, conditions to be achieved are known as</p> <ul style="list-style-type: none"> A) Values B) Goals C) Objectives D) Standards | |
| 10. | <p>Normally, urban transportation plans are prepared for</p> <ul style="list-style-type: none"> A) 40 years B) 30 years C) 20 years D) 10 years | |
| 11. | <p>The basis of urban transportation planning process is that travel patterns are:</p> <ul style="list-style-type: none"> A) Tangible, stable and predictable B) Tangible, unstable and predictable C) Tangible, stable and unpredictable D) Intangible, unstable and predictable | |
| 12. | <p>A transport corridor in any city can be identified through</p> <ul style="list-style-type: none"> A) Desire line diagram B) Diversion curve C) Network diagram D) Speed flow curve | |
| 13. | <p>Traffic Flow is inversely related to _____</p> <ul style="list-style-type: none"> A. Space headway B. Time headway C. Gap between vehicles D. Density | |
| 14. | <p>Space mean speed refers to _____ of speed values.</p> <ul style="list-style-type: none"> A) Arithmetic mean B) Geometric mean C) Harmonic mean D) Median value | |
| 15. | <p>During a speed and delay study, it was observed that the average journey time taken to travel along a test stretch of 3 km was 10 minutes and the average stopped delay observed was 2 minutes. The running speed would be ____</p> <ul style="list-style-type: none"> A. 20.5 kmph | |

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| | B. 33.5 kmph C. 21.5 kmph D. 22.5 kmph | |
| 16. | Peak hour factor values range between A) 0.00 to 1.00 B) 0.25 to 1.00 C) 0.10 to 0.90 D) 0.25 to 0.75 | |
| 17. | An Enoscope is used for measuring A. Traffic Volume B. Delay C. Spot Speed D. Traffic Density | |
| 18. | Growth factor methods are suitable for A) Long term predictions B) Medium term predictions C) Short term predictions D) Very long term predictions | |
| 19. | In any urban area, as the trip length increases, the probability of choosing public transport A) Remains constant B) Increases C) Decreases D) Equals to 1.0 | |
| 20. | Time-distance diagram describes A) Trajectories of the vehicles in a traffic stream B) Traffic signal phases C) Spot speed distributions D) Parking accumulation | |
| 21. | Flow, speed and delays of a traffic stream can be obtained simultaneously through: A) Spot speed study B) Traffic volume study C) Moving car study D) Turning movement study | |
| 22. | Crossing conflicts are converted to merging and diverging conflicts at A) Uncontrolled intersections B) Signalised intersections C) Priority intersections D) Roundabouts | |
| 23. | Design Hourly Volume (DHV) for urban roads ranges from _____ of Average Daily Traffic Volume: A) 6% to 10% B) 8% to 12% C) 10% to 14% D) 12% to 18% | |
| 24. | Recommended sample sizes to be adopted in home interview studies depend on: A) Population of the city B) Number of buildings in the city C) Number of registered vehicles in the city | |

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| | D) Number of employees in the city | |
| 25. | Data of internal movements are captured through A) Roadside interview study B) Commercial vehicle study C) Traffic volume study D) Home interview study | |
| 26. | Behavior of urban passengers is captured through A) Aggregate travel demand models B) Disaggregate travel demand models C) Direct travel demand models D) Simultaneous travel demand models | |
| 27. | An invisible line drawn at the commuter-sheds between urban areas is known as A) Screen line B) Internal cordon C) External cordon D) Outer ring road | |
| 28. | Category analysis is based on A) Disposable income, car ownership, household structure B) Monthly income, vehicle ownership, family size C) Annual income, two wheeler ownership, number of employees D) Daily income, cycle ownership, number of students | |
| 29. | Trip interchange modal split models are developed A) Along with trip generation models B) After trip generation models C) Before trip distribution models D) After trip distribution models | |
| 30. | Dummy link connects A) Zone centroid node to another zone centroid node B) Intersection node to another intersection node C) Intersection node to interchange node D) Zone centroid node to intersection node | |
| 31. | Headway is defined as A) Time interval between vehicles in any two traffic streams of an intersection B) Distance interval between vehicles in any two traffic streams of an intersection C) Time interval between two successive vehicles in a traffic stream D) Distance interval between any two vehicles in a traffic stream | |
| 32. | Critical gap is defined as A) Accepted gaps = rejected gaps B) Accepted gaps > rejected gaps C) Accepted gaps < rejected gaps D) Accepted gaps < or > rejected gaps | |
| 33. | In capacity restraint assignment, A) Link capacities are restricted B) Link travel costs are restricted C) Link travel times are restricted D) Link traffic volumes are restricted | |
| 34. | The deficiencies in the existing transportation system can be obtained through A) Traffic assignment B) Trip distribution | |

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| | C) Mode choice analysis D) Trip generation | |
| 35. | Transportation System Management is applicable for A) Short range B) Medium range C) Long range D) Very long range | |
| 36. | Data that describes the characteristics of spatial features is called as A) Functional data B) Nominal data C) Real data D) Attribute data | |
| 37. | Process of transforming the spatial features on the earth surface to flat map is called as A) Render B) Projection C) Geotagging D) Mosaic | |
| 38. | _____ is the study of those properties of geometric objects that remain invariant under certain transformations such as bending or stretching A) Topology B) Numerology C) Geomorphology D) Cartography | |
| 39. | Which one of following is incorrect for raster database structure A) Raster database structure uses simple data model B) Data collection is easy for raster data C) Raster database structure uses cheap technology D) Raster database structure produces good cartographic quality output | |
| 40. | Small polygons formed along the shared boundary of two input layers in vector overlay are called as: A) Slivers B) Residues C) Nuggets D) Node-Arcs | |
| 41. | The nodes which appear along the continuous line and divides the line unnecessarily into separate lines is called as A) Dangling node B) Pseudo node C) Arc node D) Split node | |
| 42. | Buffering around point features creates _____ buffer zone A) Square B) Trapezoidal C) Elliptical D) Circular | |
| 43. | Which of the following is not a GIS package A) Arc GIS | |

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| | B) MapInfo C) Idrisi32 D) Netscape | |
| 44. | Which distance is related to GIS A) Ramanujan distance B) Pythagorean distance C) Euclidean distance D) Marks distance | |
| 45. | A set of irregularly spaced continuous cells with associated filed values is called as A) Crystal B) Raster C) Segment D) Polygon | |
| 46. | The relation between the pixel size and cell on the ground is referred as A) Magnitude B) Scale C) Texture D) Association | |
| 47. | The process of reshaping lines by using some mathematical functions such as splines is called A) Line simplification B) Line smoothing C) Line shaping D) Line flattening | |
| 48. | Utility network has the following properties A) Directed network B) Path is predetermined C) None of the above D) Both A & B | |
| 49. | The characteristics of links in network analysis include A) Connectivity and pattern B) Connected and unidirectional C) Orientation with loops D) Unidirectional with pattern | |
| 50. | GIS has a key role to play in A) Waste handling B) Disposal solutions C) Recycling D) Waste transport | |

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Time:

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Key

| | | | |
|----|---|----|---|
| 1 | B | 26 | B |
| 2 | D | 27 | C |
| 3 | A | 28 | A |
| 4 | C | 29 | D |
| 5 | D | 30 | D |
| 6 | A | 31 | C |
| 7 | C | 32 | A |
| 8 | C | 33 | D |
| 9 | B | 34 | A |
| 10 | C | 35 | A |
| 11 | A | 36 | D |
| 12 | A | 37 | B |
| 13 | B | 38 | A |
| 14 | C | 39 | D |
| 15 | D | 40 | A |
| 16 | B | 41 | B |
| 17 | C | 42 | D |
| 18 | C | 43 | D |
| 19 | B | 44 | C |
| 20 | A | 45 | C |
| 21 | C | 46 | B |
| 22 | D | 47 | B |
| 23 | B | 48 | D |
| 24 | A | 49 | A |
| 25 | D | 50 | D |