

OJEE M Plan Sample Paper 03

A) Mode and Time: The exam is a Computer Based Test (CBT) lasting 120 minutes.

B) Total Questions: The exam contains 90 questions.

C) Marking Scheme & Rules:

- Each question carry 1 mark and there is no negative marking for wrong answer.

Q1. The "Broadacre City" concept, an urban/suburban development concept proposing that each family be given a one-acre plot of land, was introduced by:

- A. Le Corbusier
- B. Frank Lloyd Wright
- C. Ebenezer Howard
- D. Patrick Geddes

Q2. As per the URDPFI Guidelines, what is the typical design period for a Perspective Plan?

- A. 5 - 10 Years
- B. 10 - 15 Years
- C. 20 - 30 Years
- D. 50 - 100 Years

Q3. The 11th Sustainable Development Goal (SDG 11) adopted by the United Nations specifically focuses on:

- A. No Poverty
- B. Quality Education
- C. Climate Action
- D. Sustainable Cities and Communities

Q4. In Indian Census terminology, a "Statutory Town" is defined as:

- A. Any town with a population over 5,000
- B. Any place with a municipality, corporation, cantonment board, or notified town area committee
- C. A town with a minimum density of 400 persons per sq. km

D. A town with 75% male working population in non-agricultural pursuits

Q5. The "Gravity Model" in transportation and regional planning is primarily used to estimate:

- A. The structural load of bridges
- B. The spatial interaction and trip generation between two zones
- C. The gradient of urban drainage systems
- D. The population growth rate

Q6. Which planning concept promotes mixed-use, walkable neighborhoods with high-density housing located within a short distance of a mass transit station?

- A. Suburban Sprawl
- B. Transit-Oriented Development (TOD)
- C. Greenbelt Zoning
- D. Sector Model

Q7. The "Rank-Size Rule," which states that the n^{th} largest city in a country will have $1/n$ the population of the largest city, was popularized by:

- A. Walter Christaller
- B. George K. Zipf
- C. Mark Jefferson
- D. Homer Hoyt

Q8. In geographic information systems (GIS), a "Buffer Analysis" is used to:

- A. Change the map projection
- B. Identify areas within a specified distance around a map feature
- C. Convert vector data to raster data
- D. Calculate the shortest path between two points

Q9. The report titled "Our Common Future" (1987), which laid the foundation for the concept of sustainable development, is also known as the:

- A. Kyoto Protocol
- B. Brundtland Report
- C. Agenda 21

D. Rio Declaration

Q10. Under the Real Estate (Regulation and Development) Act (RERA), a promoter must deposit what percentage of the amount realized from allottees into a separate bank account to cover construction costs?

- A. 50%
- B. 60%
- C. 70%
- D. 100%

Q11. A contour interval on a topographic map refers to:

- A. The horizontal distance between two contour lines
- B. The vertical distance between two consecutive contour lines
- C. The degree of slope between two points
- D. The scale of the map

Q12. The "Multiple Nuclei Model" of urban structure was developed by:

- A. Burgess
- B. Hoyt
- C. Harris and Ullman
- D. Christaller

Q13. In demographic studies, the "Demographic Transition Model" describes the historical shift of birth and death rates from:

- A. Low to High
- B. High to Low
- C. Static to Dynamic
- D. Urban to Rural

Q14. Which of the following is NOT a fundamental component of the Human Development Index (HDI)?

- A. Life expectancy at birth
- B. Mean years of schooling
- C. Gross National Income (GNI) per capita

D. Income inequality (Gini Coefficient)

Q15. The concept of "Conservative Surgery," which advocated for the careful, minimal improvement of slums rather than wholesale demolition, was coined by:

- A. Jane Jacobs
- B. Patrick Geddes
- C. Le Corbusier
- D. Ebenezer Howard

Q16. In the context of the National Urban Livelihoods Mission (NULM), the primary focus is on:

- A. Building mass rapid transit systems
- B. Providing housing for higher-income groups
- C. Reducing poverty and vulnerability of the urban poor
- D. Developing smart cities from scratch

Q17. A planning technique where developers are allowed to build higher or denser than zoning normally permits, in exchange for providing public amenities, is called:

- A. Inclusionary Zoning
- B. Incentive Zoning
- C. Euclidean Zoning
- D. Exclusionary Zoning

Q18. Which traffic survey involves counting the number of vehicles passing a specific point on a roadway over a specified period?

- A. Origin-Destination Survey
- B. Spot Speed Study
- C. Classified Volume Count
- D. Parking Turnover Survey

Q19. "Ebenezer Howard" originally suggested that the optimum population for a Garden City should be capped at approximately:

- A. 10,000
- B. 32,000

C. 100,000

D. 500,000

Q20. In environmental planning, the "Urban Heat Island" effect is primarily caused by:

A. Increased rainfall in urban areas

B. High albedo of rural surfaces

C. Replacement of natural vegetation with paved surfaces and buildings

D. The presence of water bodies

Q21. Which organization is responsible for the preparation of the National Building Code (NBC) of India?

A. Council of Architecture (COA)

B. Town and Country Planning Organization (TCPO)

C. Bureau of Indian Standards (BIS)

D. NITI Aayog

Q22. The "Swachh Bharat Mission" (Urban) aims primarily to achieve which of the following statuses for all statutory towns?

A. Zero Carbon Emission

B. 100% Slum-Free

C. Open Defecation Free (ODF)

D. Complete Renewable Energy Reliance

Q23. In India, the 74th Constitutional Amendment Act added which schedule to the Constitution, detailing the functional items of municipalities?

A. 10th Schedule

B. 11th Schedule

C. 12th Schedule

D. 13th Schedule

Q24. Which type of map represents boundaries of land parcels, ownership, and measurements for taxation and legal purposes?

A. Topographical Map

B. Cadastral Map

C. Choropleth Map

D. Isoline Map

Q25. The physical spread of urban development into neighboring rural and agricultural areas with low-density, car-dependent design is known as:

A. Gentrification

B. Urban Sprawl

C. Urban Renewal

D. Infill Development

Q26. In transportation planning, "PCU" is used to convert different types of vehicles into a standard unit. It stands for:

A. Public Commuter Unit

B. Passenger Car Unit

C. Primary Congestion Unit

D. Peak Capacity Unit

Q27. Which of the following is considered a Non-Motorized Transport (NMT) mode?

A. Bus Rapid Transit

B. E-Rickshaw

C. Bicycle

D. Metro Rail

Q28. The "Neighborhood Unit" concept inherently restricts which of the following from passing through the residential area?

A. Pedestrians

B. Cyclists

C. Arterial/Through Traffic

D. Local Delivery Vehicles

Q29. The term "Gentrification" usually results in:

A. The increase of affordable housing

B. The physical decline of a neighborhood

- C. The displacement of lower-income residents by higher-income residents
- D. The creation of heavy industrial zones

Q30. Which of the following satellite missions is India's primary program for Earth observation and remote sensing?

- A. INSAT
- B. IRS (Indian Remote Sensing)
- C. GSAT
- D. IRNSS (NavIC)

Q31. In photogrammetry, the point on the ground vertically beneath the perspective center of the camera lens is called the:

- A. Principal Point
- B. Nadir Point
- C. Isocenter
- D. Fiducial Mark

Q32. A "Greenfield" development project is one that is built on:

- A. A previously developed industrial site
- B. Land that has never been developed or built upon
- C. A site strictly reserved for parks
- D. A reclaimed landfill

Q33. The legal right to use another person's land for a specific limited purpose, such as a right-of-way for utilities, is called an:

- A. Eminent Domain
- B. Easement
- C. Encroachment
- D. Endowment

Q34. Which urban form is characterized by a central city with surrounding smaller satellite cities connected by high-speed transit?

- A. Linear City
- B. Star-shaped City

- C. Grid City
- D. Polycentric / Regional City

Q35. In solid waste management, the process of decomposing organic waste using earth-worms is called:

- A. Incineration
- B. Pyrolysis
- C. Vermicomposting
- D. Sanitary Landfilling

Q36. According to the URDPFI guidelines, the hierarchy of planning includes a "Development Plan" which is typically prepared for a time frame of:

- A. 1 year
- B. 5 years
- C. 20 years
- D. 50 years

Q37. What does the acronym "SEZ" stand for in Indian economic planning?

- A. State Economic Zone
- B. Special Economic Zone
- C. Social Empowerment Zone
- D. Sustainable Environmental Zone

Q38. The "Peak Hour Factor" (PHF) in traffic engineering is a measure of:

- A. The average speed of vehicles
- B. The fluctuation of traffic flow within the peak hour
- C. The total volume of traffic in 24 hours
- D. The number of heavy vehicles

Q39. In cost-benefit analysis of a planning project, the "Discount Rate" is used to:

- A. Calculate the depreciation of machinery
- B. Convert future costs and benefits to their present value
- C. Determine the inflation rate

D. Estimate the tax revenue

Q40. Which term refers to the maximum volume of traffic a roadway can handle under ideal conditions?

A. Traffic Volume

B. Road Capacity

C. Level of Service

D. Traffic Density

Q41. A city that acts as a major center for international finance, trade, and culture, such as London, New York, or Tokyo, is termed a:

A. Primate City

B. Global City

C. Megalopolis

D. Edge City

Q42. In remote sensing, "Spatial Resolution" refers to:

A. The number of spectral bands

B. The frequency of satellite flyovers

C. The size of the smallest feature that can be detected

D. The number of bits used to record energy

Q43. Which of the following is a key feature of "Smart Growth" planning?

A. Expansion of urban boundaries

B. Encouraging single-use zoning

C. Fostering walkable, mixed-use communities

D. Prioritizing automobile infrastructure

Q44. The Government of India's "PM Gati Shakti" initiative is primarily focused on:

A. Rural electrification

B. Multi-modal connectivity and infrastructure planning

C. Universal healthcare

D. Free primary education

Q45. In the context of the National Building Code (NBC), what does 'FAR' stand for?

- A. Floor Area Ratio
- B. Fire Action Report
- C. Free Accessible Region
- D. Frontage Area Requirement

Q46. The phenomenon where firms cluster together to benefit from shared infrastructure, labor pools, and markets is known as:

- A. Economies of Scale
- B. Agglomeration Economies
- C. Diseconomies of Scale
- D. Comparative Advantage

Q47. Which level of government creates the District Planning Committee (DPC) as mandated by the Constitution?

- A. The Central Government
- B. The State Government
- C. The Municipal Corporation
- D. The Gram Panchayat

Q48. A "Cul-de-sac" is a street design intended to:

- A. Increase the speed of traffic
- B. Connect two major arterial roads
- C. Limit through-traffic in residential areas
- D. Provide commercial frontage

Q49. "Carpet Area" of an apartment explicitly excludes the area covered by:

- A. Bedrooms
- B. Living rooms
- C. External and internal walls
- D. Kitchens

Q50. Which environmental concept measures the amount of biologically productive land and water area required to sustain a population's consumption and absorb its waste?

- A. Carbon Footprint
- B. Ecological Footprint
- C. Biocapacity
- D. Carrying Capacity

Q51. Under the LARR Act 2013, land cannot be acquired in Scheduled Areas without the prior consent of the:

- A. State Governor
- B. District Collector
- C. Gram Sabha
- D. Chief Minister

Q52. The "Concentric Zone Model" assumes that the outermost ring of the city is primarily occupied by:

- A. Heavy industry
- B. The Central Business District
- C. Low-income tenements
- D. Commuters / High-income residential

Q53. Which of the following acts as India's national rating system for green buildings, jointly developed by TERI and MNRE?

- A. LEED India
- B. IGBC
- C. GRIHA
- D. BREEAM

Q54. A "Right of Way" (ROW) in road planning is defined as:

- A. The paved surface of the road only
- B. The total land width acquired and reserved for the road and its appurtenances
- C. The footpath dedicated for pedestrians
- D. The central median separating traffic

Q55. In urban sociology, "Slum Upgrading" is preferred over "Slum Clearance" primarily because it:

- A. Is more profitable for private developers
- B. Preserves social networks and community structures
- C. Requires zero government funding
- D. Reduces the overall density of the city

Q56. The "Central Place Theory" uses which geometric shape to depict market areas without overlaps or gaps?

- A. Circles
- B. Squares
- C. Triangles
- D. Hexagons

Q57. The process of determining the most profitable and legally permissible use of a property is called:

- A. Highest and Best Use analysis
- B. Life Cycle Costing
- C. Depreciation modeling
- D. Zoning variance

Q58. In water supply engineering, the demand for water is usually expressed in:

- A. Gallons per hour
- B. Liters per capita per day (LPCD)
- C. Cubic meters per second
- D. Ounces per family

Q59. Which Indian city was planned by the architect Le Corbusier in the 1950s?

- A. New Delhi
- B. Gandhinagar
- C. Chandigarh
- D. Navi Mumbai

Q60. An "Isochrone" map displays lines connecting points of equal:

- A. Elevation

- B. Travel time
- C. Population density
- D. Air pressure

Q61. Number Series: 2, 5, 11, 23, 47, ?

- A. 94
- B. 95
- C. 96
- D. 97

Q62. Letter Series: B, E, H, K, N, ?

- A. O
- B. P
- C. Q
- D. R

Q63. Odd One Out: Which of the following is different from the rest?

- A. Oven
- B. Toaster
- C. Refrigerator
- D. Bicycle

Q64. Coding-Decoding: If TABLE is coded as UBCMF, how is CHAIR coded?

- A. DIBJS
- B. DIQJS
- C. DIBKS
- D. CIBJS

Q65. Blood Relation: A woman says, "He is the son of the only son of my grandfather." How is the man related to the woman?

- A. Uncle
- B. Brother
- C. Cousin

D. Nephew

Q66. Direction Sense: You walk 10 km South, turn left and walk 5 km, then turn left again and walk 10 km. How far and in which direction are you from the start?

- A. 5 km East
- B. 5 km West
- C. 10 km North
- D. 10 km South

Q67. Syllogism: Statements: All trees are plants. All plants are green. Conclusions: I. All trees are green. II. Some green things are trees.

- A. Only I follows
- B. Only II follows
- C. Both I and II follow
- D. Neither I nor II follows

Q68. Analogy: Ocean : Water :: Desert : ?

- A. Heat
- B. Sand
- C. Camel
- D. Cactus

Q69. Logical Sequence: Arrange logically: 1. Application 2. Selection 3. Interview 4. Advertisement 5. Appointment

- A. 4, 1, 3, 2, 5
- B. 1, 4, 3, 2, 5
- C. 4, 1, 2, 3, 5
- D. 1, 4, 2, 3, 5

Q70. Odd One Out (Planning Term):

- A. Intersection
- B. Roundabout
- C. Interchange

D. Aqueduct

Q71. Missing Number: 1, 8, 27, 64, 125, ?

A. 196

B. 216

C. 256

D. 343

Q72. Statement & Conclusion: "All urban areas have high pollution." Conclusion I: Pollution is a byproduct of urbanization. Conclusion II: Villages have zero pollution.

A. Only I follows

B. Only II follows

C. Both follow

D. Neither follows

Q73. Venn Diagram: Which diagram best represents: 'Teachers, Writers, Men'?

A. Three disjoint circles

B. Three intersecting circles

C. Two intersecting circles inside a larger one

D. One circle inside another

Q74. Verbal Analogy: PROSPERITY : WEALTH :: POVERTY : ?

A. Health

B. Scarcity

C. Success

D. Joy

Q75. Find the synonym: COMPREHENSIVE

A. Limited

B. Incomplete

C. Inclusive

D. Exclusive

Q76. Find the antonym: MANDATORY

- A. Required
- B. Optional
- C. Compulsory
- D. Urgent

Q77. Coding-Decoding: If SUN = 54 and MOON = 57, what does STAR equal? (A=1, B=2...)

- A. 58
- B. 59
- C. 60
- D. 61

Q78. Word Formation: Which word CANNOT be formed from "ENVIRONMENT"?

- A. ENTER
- B. MOVEMENT
- C. IRON
- D. TENT

Q79. Paragraph Conclusion: "Smart traffic lights adapt to real-time traffic flow, cutting wait times by 30%." Conclusion: Smart traffic lights are more efficient than static timer-based lights.

- A. True
- B. False
- C. Probably False
- D. Cannot be determined

Q80. Clock Reasoning: What is the angle between the hands of a clock at 4:20?

- A. 0 degrees
- B. 10 degrees
- C. 20 degrees
- D. 30 degrees

Q81. Calendar Reasoning: If January 1, 2024, was a Monday, what day of the week was December 31, 2024?

- A. Monday
- B. Tuesday
- C. Wednesday
- D. Sunday

Q82. Ranking: Riya is 12th from the top and 28th from the bottom in a merit list. How many students are there?

- A. 38
- B. 39
- C. 40
- D. 41

Q83. Grammar: Neither of the two plans been approved yet.

- A. have
- B. has
- C. is
- D. are

Q84. Idiom Meaning: "To read between the lines" means:

- A. To read very quickly
- B. To look for hidden meanings
- C. To memorize a text
- D. To write a summary

Q85. Error Spotting: (A) The urban planner / (B) distributed the maps / (C) between the three teams. / (D) No error.

- A. A
- B. B
- C. C
- D. D

Q86. Number Matrix: 3 4 25 ; 4 5 41 ; 5 6 ?

- A. 61
- B. 60
- C. 63
- D. 71

Q87. Cause and Effect: I. A massive flyover was constructed. II. The bottleneck traffic at the junction eased completely.

- A. I is cause, II is effect
- B. II is cause, I is effect
- C. Both are independent causes
- D. Both are effects

Q88. Blood Relation: Pointing to a girl, a man says, "She is the daughter of my grandfather's only son." How is the girl related to the man?

- A. Aunt
- B. Sister
- C. Cousin
- D. Niece

Q89. Analogy: Map : Scale :: Book : ?

- A. Page
- B. Index
- C. Author
- D. Cover

Q90. Odd One Out:

- A. Rectangle
- B. Triangle
- C. Circle
- D. Sphere

Solutions

1. B

Explanation: Frank Lloyd Wright introduced "Broadacre City" in 1932, a decentralized suburban vision where every family would be given a minimum of one acre of land, heavily relying on automobile transport.

2. C

Explanation: According to the URDPFI (Urban and Regional Development Plans Formulation and Implementation) guidelines, a Perspective Plan is a long-term strategic document with a design period of 20 to 30 years.

3. D

Explanation: SDG 11 aims to "Make cities and human settlements inclusive, safe, resilient and sustainable" by the year 2030.

4. B

Explanation: In the Census of India, a "Statutory Town" is any place with a statutory local government body such as a municipality, corporation, cantonment board, or notified town area committee.

5. B

Explanation: The Gravity Model is used in trip distribution (part of the 4-step transport model) to estimate the number of trips between two zones, based on their "mass" (attractiveness) and inversely proportional to the "impedance" (distance/time).

6. B

Explanation: Transit-Oriented Development (TOD) maximizes residential, business, and leisure space within walking distance of public transport hubs, reducing reliance on private cars.

7. B

Explanation: George Kingsley Zipf formulated the Rank-Size Rule in 1949, proposing a mathematical relationship where a city's population is inversely proportional to its rank in the country.

8. B

Explanation: Buffer analysis in GIS creates a zone of a specified distance around a point, line, or polygon feature, often used to determine proximity or catchment areas (e.g., 500m around a metro station).

9. B

Explanation: The World Commission on Environment and Development (WCED) published "Our Common Future" in 1987. It is commonly known as the Brundtland Report after its chair, Gro Harlem Brundtland.

10. C

Explanation: Under Section 4(2)(1)(D) of the RERA Act, 2016, a developer must deposit 70% of the funds collected from buyers into a separate escrow account to ensure the money is used only for construction and land costs.

11. B

Explanation: A contour interval is the constant vertical elevation difference be-

tween two consecutive contour lines on a topographic map.

12. C

Explanation: Chauncy Harris and Edward Ullman proposed the Multiple Nuclei Model in 1945, suggesting that cities do not grow around a single center, but around multiple independent nuclei.

13. B

Explanation: The Demographic Transition Model (DTM) illustrates the historical trajectory of a country's population growth, shifting from high birth and death rates to low birth and death rates as the country develops.

14. D

Explanation: The HDI measures average achievement in three basic dimensions: a long and healthy life (Life expectancy), knowledge (Mean/Expected years of schooling), and a decent standard of living (GNI per capita). It does not directly include the Gini Coefficient.

15. B

Explanation: Sir Patrick Geddes advocated "Conservative Surgery," arguing that planners should surgically remove the worst dilapidated structures to provide light and air, rather than bulldozing entire neighborhoods.

16. C

Explanation: The National Urban Livelihoods Mission (NULM) focuses on reducing poverty and vulnerability of the urban poor by enabling them to access gainful self-employment and skilled wage employment opportunities.

17. B

Explanation: Incentive Zoning grants developers bonuses, such as increased Floor Area Ratio (FAR) or density, in exchange for providing public benefits like affordable housing, parks, or plazas.

18. C

Explanation: A Classified Volume Count surveys the number and type (classification) of vehicles passing a specific point on a road during a specific time, determining the road's traffic volume.

19. B

Explanation: Ebenezer Howard envisioned a Garden City to have a maximum population of 32,000 (30,000 in the city proper and 2,000 in the surrounding agricultural estate).

20. C

Explanation: The Urban Heat Island (UHI) effect occurs because dark paved surfaces and buildings absorb and retain solar heat much more than natural vegetation, raising urban temperatures.

21. C

Explanation: The National Building Code (NBC) of India, which provides guidelines for regulating building construction activities across the country, is published by the Bureau of Indian Standards (BIS).

22. C

Explanation: A primary objective of the Swachh Bharat Mission (Urban) is the

elimination of open defecation, leading to the certification of all statutory towns as Open Defecation Free (ODF).

23. C

Explanation: The 74th Constitutional Amendment Act (1992) added the 12th Schedule to the Constitution, which lists 18 functions devolved to Municipalities.

24. B

Explanation: A cadastral map is an official, highly detailed map showing the boundaries, ownership, and dimensions of land parcels, essential for land administration and property taxation.

25. B

Explanation: Urban sprawl is the uncoordinated, low-density expansion of urban areas into the adjoining countryside, typically characterized by heavy reliance on automobiles.

26. B

Explanation: Passenger Car Unit (PCU) is a metric used to express the capacity of a road by equating the impact of different vehicles (buses, trucks, bikes) to that of a single standard passenger car.

27. C

Explanation: Non-Motorized Transport (NMT) refers to human-powered transportation. Bicycles and walking are the primary modes of NMT.

28. C

Explanation: Clarence Perry's Neighborhood Unit was designed so that arterial roads border the perimeter, strictly preventing heavy, through-traffic from passing through the residential interior for safety.

29. C

Explanation: Gentrification generally leads to rising property values and rents in a neighborhood, which forces out the original, lower-income residents who can no longer afford to live there.

30. B

Explanation: The Indian Remote Sensing (IRS) satellite system is a large constellation of Earth observation satellites operated by ISRO, widely used for resource surveying and urban planning.

31. B

Explanation: In photogrammetry, the nadir is the point on the ground perfectly vertically below the camera lens at the moment of exposure.

32. B

Explanation: Greenfield development refers to the creation of planned communities or facilities on previously undeveloped land, such as agricultural or forested land.

33. B

Explanation: An easement is a non-possessory property right that allows the holder to use property that they do not own or possess for a specific purpose (e.g., laying a water pipe).

34. D

Explanation: A polycentric or regional city structure features a major central city surrounded by multiple interconnected, semi-independent satellite cities or employment nodes.

35. C

Explanation: Vermicomposting uses various species of worms, usually red wigglers, to break down organic matter and food waste into a nutrient-rich fertilizer.

36. C

Explanation: Under URDPFI guidelines, a Development Plan (often synonymous with a Master Plan) is a statutory document typically prepared for a design period of 20 years.

37. B

Explanation: A Special Economic Zone (SEZ) is an area subject to unique economic regulations (such as tax incentives) designed to attract foreign direct investment and boost exports.

38. B

Explanation: The Peak Hour Factor (PHF) compares the traffic volume during the busiest 15 minutes of the peak hour to the total volume of that hour, measuring the uniformity of traffic flow.

39. B

Explanation: In economics, the discount rate is used to convert future costs and benefits into present value, accounting for the time value of money.

40. B

Explanation: Road capacity is the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway.

41. B

Explanation: A Global City (or world city) is an urban center that enjoys significant competitive advantages and serves as a vital hub within the globalized economic system.

42. C

Explanation: Spatial resolution in remote sensing defines the size of the smallest object or ground area that can be resolved or distinctly identified by the sensor (e.g., 1 meter resolution).

43. C

Explanation: Smart Growth is an urban planning theory that concentrates growth in compact, walkable, and mixed-use urban centers to avoid sprawl and preserve open space.

44. B

Explanation: PM Gati Shakti is a National Master Plan aimed at breaking departmental silos and bringing in holistic, multi-modal connectivity and integrated infrastructure development across India.

45. A

Explanation: FAR (Floor Area Ratio) is a development control regulation limit-

ing the maximum floor space that can be built relative to the size of the plot.

46. B

Explanation: Agglomeration economies are the cost savings and benefits that businesses obtain by locating close to one another, sharing labor, suppliers, and knowledge.

47. B

Explanation: As mandated by Article 243ZD of the Constitution (74th Amendment), the State Government constitutes the District Planning Committee at the district level.

48. C

Explanation: A cul-de-sac is a dead-end street. It is designed to restrict through-traffic, thereby making residential neighborhoods quieter and safer for inhabitants.

49. C

Explanation: Carpet Area is the net usable floor area of an apartment. Under RERA, it explicitly excludes the area covered by external walls, service shafts, exclusive balconies, and open terraces.

50. B

Explanation: The Ecological Footprint measures the human demand on Earth's ecosystems, calculating the amount of natural capital required to support a population's lifestyle and absorb its carbon emissions.

51. C

Explanation: Under the LARR Act 2013, land acquisition in Scheduled Areas (tribal areas) requires the prior consent of the concerned Gram Sabha or the Panchayats.

52. D

Explanation: In Burgess's Concentric Zone Model, the outermost ring (Zone V) is the Commuter Zone, consisting of high-income residential suburbs whose residents commute to the center for work.

53. C

Explanation: GRIHA (Green Rating for Integrated Habitat Assessment) is India's indigenous national green building rating system, developed by TERI with support from the Ministry of New and Renewable Energy.

54. B

Explanation: Right of Way (ROW) is the total legal land area acquired for the construction of the road, including the carriageway, footpaths, medians, shoulders, and future expansion space.

55. B

Explanation: In-situ slum upgrading provides basic services (water, sanitation) without displacing residents, preserving their social networks, livelihoods, and community support systems.

56. D

Explanation: Walter Christaller used hexagons in his Central Place Theory because they perfectly tile a plane without overlapping or leaving unserved areas, representing ideal market zones.

57. A

Explanation: Highest and Best Use is a real estate appraisal concept identifying the reasonably probable and legal use of vacant land or an improved property that results in the highest value.

58. B

Explanation: Water demand in municipal engineering is universally estimated and expressed in Liters Per Capita per Day (LPCD).

59. C

Explanation: Chandigarh was planned by Le Corbusier. It is renowned for its grid-iron layout, monumental Capitol Complex, and integration of green spaces.

60. B

Explanation: An isochrone map connects points from which it takes the identical amount of time to travel to or from a given destination, visualizing accessibility.

61. B

Explanation: The logic is: $(PreviousNumber \times 2) + 1$. $(2 \times 2 + 1 = 5, 5 \times 2 + 1 = 11, 11 \times 2 + 1 = 23, 23 \times 2 + 1 = 47)$. So, $47 \times 2 + 1 = 95$.

62. Q

Explanation: Each letter moves forward by 3 alphabetical positions. $B(+3)=E$, $E(+3)=H$, $H(+3)=K$, $K(+3)=N$, $N(+3)=Q$.

63. D

Explanation: An Oven, Toaster, and Refrigerator are all electrical kitchen appliances. A Bicycle is a mechanical mode of transport, making it the odd one out.

64. D

Explanation: Each letter is shifted forward by 1 in the alphabet. $T(+1)=U$, $A(+1)=B$, $B(+1)=C$, $L(+1)=M$, $E(+1)=F$. Applying to CHAIR: $C(+1)=D$, $H(+1)=I$, $A(+1)=B$, $I(+1)=J$, $R(+1)=S$. Result: DIBJS.

65. B

Explanation: "The only son of my grandfather" refers to the woman's father. The "son" of her father is her brother. Thus, the man is her brother.

66. A

Explanation: Walking 10 km South, turning left (East) for 5 km, and turning left (North) for 10 km forms a U-shape. You end up exactly 5 km East of your starting point.

67. C

Explanation: Since all trees are inside the 'plants' circle, and the entire 'plants' circle is inside the 'green' circle, all trees are necessarily green (I follows). Because trees are green, some green things are indeed trees (II follows).

68. B

Explanation: An ocean is a vast expanse defined by Water. A desert is a vast expanse primarily defined by Sand (or arid land).

69. A

Explanation: The logical sequence of recruitment is: Advertisement (4), Application (1), Interview (3), Selection (2), and finally Appointment (5).

70. D

Explanation: An intersection, roundabout, and interchange are all types of road transport junctions. An aqueduct is a bridge constructed to convey water.

71. B

Explanation: The series represents the cubes of consecutive numbers: $1^3, 2^3, 3^3, 4^3, 5^3$. The next is $6^3 = 216$.

72. A

Explanation: The statement links "urban areas" directly to "high pollution," implying it is a byproduct (I follows). However, the statement provides no information about villages, so II cannot be concluded.

73. B

Explanation: A person can be a Teacher, a Writer, and a Man all at the same time, or any combination of the two, or just one. Three intersecting circles best represent this overlapping relationship.

74. B

Explanation: Prosperity is closely associated with Wealth. Poverty is closely associated with Scarcity (or lack of resources).

75. C

Explanation: "Comprehensive" means complete and including everything that is necessary. "Inclusive" is the closest synonym.

76. B

Explanation: "Mandatory" means required by law or rules. Its direct antonym is "Optional," meaning available to be chosen but not obligatory.

77. A

Explanation: $S(19)+U(21)+N(14) = 54$. $M(13)+O(15)+O(15)+N(14) = 57$. For STAR: $S(19)+T(20)+A(1)+R(18) = 58$.

78. B

Explanation: The word "ENVIRONMENT" does not contain the letter 'A' or the letter 'U' or 'C'. Wait, let's look at "MOVEMENT". M, O, V, E, M, E, N, T. ENVIRONMENT has only one 'M'. "MOVEMENT" requires two 'M's. Therefore, MOVEMENT cannot be formed.

79. A

Explanation: The paragraph states that smart traffic lights cut wait times by 30%, which explicitly means they are more efficient. The conclusion is True.

80. B

Explanation: Angle formula: $|30H - 5.5M|$. At 4:20, Angle = $|30(4) - 5.5(20)| = |120 - 110| = 10$ degrees.

81. B

Explanation: 2024 is a leap year (366 days). The year starts on a Monday. 366 divided by 7 leaves a remainder of 2. Therefore, December 31 shifts one day forward compared to a normal year, falling on a Tuesday.

82. B

Explanation: Total students = (Position from top + Position from bottom) - 1.

Therefore, $(12 + 28) - 1 = 39$.

83. B

Explanation: The pronoun "Neither" is singular. Even though it is followed by the plural "plans," the singular verb "has" must be used.

84. B

Explanation: The idiom "to read between the lines" means to look for or discover a meaning that is hidden or implied rather than explicitly stated.

85. C

Explanation: The preposition "between" is used for two entities. Since there are "three teams," the correct preposition should be "among".

86. A

Explanation: In each row, the logic is: $Column1^2 + Column2^2 = Column3$.
Row 1: $3^2 + 4^2 = 9 + 16 = 25$. Row 2: $4^2 + 5^2 = 16 + 25 = 41$. Row 3: $5^2 + 6^2 = 25 + 36 = 61$.

87. A

Explanation: The construction of the flyover (infrastructure improvement) is the direct cause that resulted in the easing of the traffic bottleneck (effect).

88. B

Explanation: The man's "grandfather's only son" is the man's own father. The girl is the daughter of his father. Therefore, the girl is the man's sister.

89. B

Explanation: A scale provides guidance and navigational reference for a Map. Similarly, an Index provides guidance and reference for finding information in a Book.

90. D

Explanation: A Rectangle, Triangle, and Circle are all two-dimensional planar geometric shapes. A Sphere is a three-dimensional solid.