076/21

Question Booklet Alpha Code

A

A

Total Number of Questions : 100	Time : 75 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C** & **D**.

2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.

3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.

4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.

5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.

6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.

7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.

8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.

9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**

10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.

11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**

12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.

13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

1. Which colour scheme uses adjacent colours in a colour wheel ?
   A) Complimentary scheme
   B) Triads
   C) Analogous scheme
   D) Monochromatic

2. Which one of the following does not come under principles of architectural composition ?
   A) Rhythm and Balance
   B) Scale and Proportion
   C) Unity and Harmony
   D) Pattern and Colour

3. LEED rating in building stands for
   A) Local Energy and Economic Development
   B) Leadership in Energy and Environmental Design
   C) Local Environmental and Energy Data
   D) Leadership in Economic and Environmental Development

4. Figure background relationship can be used to create
   A) Form
   B) Pattern
   C) Texture
   D) Unity

5. Which of the following design activity does not incorporate anthropometrics ?
   A) Activity space and tolerance
   B) Ergonomic design
   C) Functional modules
   D) System building

6. The required width for passage of wheelchair in residence
   A) 1200 mm
   B) 900 mm
   C) 1400 mm
   D) 1800 mm

7. Match the following. Which one gives the correct answer ?
   A. Habitable rooms
   B. Toilets
   C. Fire safety for multi-storeyed buildings
   D. Kitchen
   1. At least two stairways
   2. Floor area not less than 5.5 m^2
   3. At least one exterior wall
   4. Minimum height 2.4 meters
   A) A – 3, B – 1, C – 2, D – 4
   B) A – 4, B – 2, C – 3, D – 1
   C) A – 4, B – 3, C – 1, D – 2
   D) A – 4, B – 3, C – 2, D – 1

8. The minimum scale for site plan to be submitted for building permit according to KMBR
   A) 1 : 200
   B) 1 : 400
   C) 1 : 500
   D) 1 : 800

9. Components affecting day light factor
   1. Solar output
   2. Weather conditions
   3. Sky component
   4. Externally reflected component
   5. Internally reflected component
   Choose the correct answers.
   A) 1, 3, 4
   B) 1, 2, 4
   C) 2, 3, 4
   D) 3, 4, 5

10. Factor that does not affect natural ventilation rate inside a room
    A) Wind velocity
    B) Height of window
    C) Area of window
    D) Activity of the occupant

11. Defects in timber caused due to natural forces. Choose the correct answers.
    1. Formation of knots
    2. Star shakes
    3. Case hardening
    4. Warping
    A) 1, 3
    B) 1, 2
    C) 1, 2, 3
    D) 1, 2, 4

A

12. Properties of compounds in cement are given below. Choose the correct statements.
    1. Dicalcium Silicate C_2S hydrates slowly.
    2. Tricalcium Silicate C_3S develops early strength.
    3. Gypsum controls setting time.
    4. Tetra calcium aluminoferrite C_4AF is fast reacting with more heat generation.
    A) 3, 4   B) 1, 2, 3   C) 2, 3, 4   D) 1, 4

13. Objectives of air entrainment in concrete
    A) Improves workability
    B) Less liable to segregation and bleeding
    C) Improves resistance to action of frost
    D) All of the above

14. Which of the following belongs to objectives for seasoning of timber ?
    1. To reduce the weight of the timber
    2. To impart hardness, strength and stiffness
    3. To make timber safe from fungal and insect attack
    4. To reduce tendency to warp crack and shrink
    Choose the correct answers.
    A) 1, 2   B) 2, 4   C) 2, 3, 4   D) All of the above

15. Match the functions of ingredients of paints.
    A. Base   1. To hold the ingredients in liquid suspension
    B. Vehicle   2. The character and durability of paint
    C. Drier   3. Helps to spread the paint evenly
    D. Solvent   4. Assist oxidation
    Choose the correct answers.
    A) A – 3, B – 2, C – 4, D – 1   B) A – 3, B – 4, C – 2, D – 1
    C) A – 2, B – 1, C – 4, D – 3   D) A – 4, B – 3, C – 2, D – 1

16. Which is known as commercially pure iron and also can able to mechanically work by forging, extruding, rolling and hammering ?
    A) Cast iron   B) Pig iron   C) Wrought iron   D) Pure iron

17. Consistency of cement is measured by
    A) Pycnometer   B) Vicat's apparatus
    C) Universal testing machine   D) Slump cone

18. Match the functions of constituents of brick earth.
    A. Alumina   1. Excess of it causes the brick to melt and lose its shape
    B. Silica   2. Imparts plasticity to brick earth
    C. Lime   3. Imparts yellow colour to bricks
    D. Magnesia   4. Prevents cracking, shrinking and warping of raw bricks
                     5. It gives red colour for burned bricks
    Choose the correct answers.
    A) A – 2, B – 4, C – 1, D – 3   B) A – 3, B – 4, C – 1, D – 5
    C) A – 2, B – 5, C – 1, D – 3   D) A – 3, B – 2, C – 5, D – 4

19. Natural granite used for cladding in building belongs to the category of
    A) Igneous rock   B) Acid rock
    C) Sedimentary rock   D) Metamorphic rock

20. The compressive strength of M-25 concrete is
    A) 25 kg/sqm   B) 25 N/sqmm   C) 250 N/sqmm   D) 25 N/sqcm

A   -4-

21. Choose the correct sentences which denotes the characteristics of two way slab.
    1. Concrete slab supported by four sides
    2. Load carried by the support along both directions
    3. Ratio of longer span (1) to shorter span (b) is greater than 2
    4. Used in multistorey buildings
    A) 1, 2, 4   B) 2, 4   C) 2, 3   D) 1, 3, 4

22. Choose which type of materials used for steep-slope roof coverings (slope greater than 3 : 12).
    1. Metal Panels and Shingles
    2. Asphalt, Wood and Synthetic Shingles
    3. Sprayed Polyurethane Foam (SPF)
    4. Clay and Concrete Tile
    A) 1, 2, 4   B) 2, 4   C) 2, 3   D) 1, 3, 4

23. A vertical diaphragm acting as a thin, deep cantilever beam in transferring lateral load to the foundation is
    A) Pneumatic structure   B) Shell
    C) Membrane   D) Shear wall

24. The ingredient to be added to produce aerated cement concrete, is
    A) Aluminium   B) Calcium chloride   C) Gypsum   D) Sulphur

25. The cause of short column effect, during seismic occurrence, is due to
    A) Centralized rupture of column   B) Tearing of reinforcement bars
    C) Buckling of column   D) Stress concentration

26. Method to improve bearing capacity soil as per the site condition
    A) By increasing width of foundation   B) By compacting the soil
    C) By draining the soil   D) All of the above

27. Raft foundation is used when
    A) Poor ground condition
    B) To distribute heavy concentrated load over large area
    C) Where there is possibility of unequal settlement
    D) All of the above

28. Ponding is associated with
    A) RC column   B) Steel column   C) RC slab   D) Steel truss

29. As per National Building Code, the slope of ramps for pedestrian access shall not be greater than
    A) 1 : 10   B) 1 : 8   C) 1 : 12   D) 1 : 15

30. Toothing is a construction technique used in
    A) Wood construction   B) Steel construction
    C) Reinforced cement concrete construction   D) Brick masonry

A

31. Match the following. Choose the correct answer.
            Group – I   **Group – II**
  A. Egypt civilization   1. Trabeated
  B. Sumerian civilization   2. Classical columned and trabeated
  C. Indus valley civilization   3. Columnar and trabeated
  D. Greek architecture   4. Arcuate
  A) A – 3, B – 1, C – 2, D – 4   B) A – 4, B – 2, C – 3, D – 1
  C) A – 4, B – 3, C – 1, D – 2   D) A – 3, B – 4, C – 1, D – 2

32. Match the following. Choose the correct answers.
            Group – I   **Group – II**
  A. Chaitya Halls   1. Pillars
  B. Viharas   2. Gateway
  C. Torana   3. Hostels
  D. Stambas   4. Worshipping places
  A) A – 3, B – 1, C – 2, D – 4   B) A – 4, B – 3, C – 2, D – 1
  C) A – 4, B – 3, C – 1, D – 2   D) A – 3, B – 4, C – 1, D – 2

33. The Grand Gallery in Egyptian Architecture is provided at
  A) Great Pyramid   B) Temple   C) Mastaba   D) Bent pyramid

34. Match the term in Group – I with their meanings in Group – II.
            Group – I   **Group – II**
  A. Mimbar   1. Prayer niche
  B. Sahn   2. Open courtyard
  C. Qibla   3. Pulpit in the sanctuary
  D. Mihrab   4. Direction of Mecca
  A) A – 3, B – 1, C – 2, D – 4   B) A – 4, B – 2, C – 3, D – 1
  C) A – 3, B – 2, C – 4, D – 1   D) A – 3, B – 4, C – 1, D – 2

35. Match the following. Choose the correct answer.
            Group – I   **Group – II**
  A. Qutub Minar   1. Method of supporting dome on square base
  B. Squinch arch system   2. Fusion of Indian and Persian styles
  C. Quwat-ul-Islam   3. Adhai-din-ka Jhompra
  D. Alai Darwaza   4. First mosque building in India
                          5. Victory tower
  A) A – 3, B – 1, C – 2, D – 5   B) A – 5, B – 2, C – 3, D – 1
  C) A – 3, B – 2, C – 4, D – 1   D) A – 5, B – 4, C – 1, D – 2

36. Choose the correct answers – Features of Indus valley civilisation
  1. Geometrical alignment of roads
  2. Monumental religious structures
  3. Efficient urban planning and sanitation system
  4. Defined boundary for community
  A) 1, 3   B) 1, 2, 3
  C) 1, 3, 4   D) All of the above

37. Choose the correct answers – Gothic Architecture
  A) Good lighting and light structural systems B) Use of flying buttresses and rose window
  C) Rib and panel vaulting system   D) All of the above

38. Features of Baroque Architecture
  A) Strong curves   B) Rich decoration
  C) Dynamism   D) All of the above

39. Renaissance Architecture features
    A) Revival of classical Greek and Roman Architecture
    B) Round and semi-circular arches
    C) Both of the above
    D) Cross vault construction

40. Pioneers of Italian Renaissance Architecture
    1. Michael Angelo   2. Borromini
    3. Brunelleschi   4. Carlo Maderno
    Choose the correct answers.
    A) 1, 3, 4   B) 1, 2, 4
    C) 2, 4   D) All the above

41. Which of the following books is/are considered as classical texts covering knowledge about traditional temple Architecture of Kerala ?
    P. Vastuvidya
    Q. Silpiratnam
    R. Thantrasamuchayam
    S. Manushalaya Chandrika
    Choose the correct answers.
    A) Q   B) S   C) Q and R   D) P and S

42. The first mosque in Kerala was built in
    A) Kuttichira   B) Calicut
    C) Kodugalloor   D) Thazhathangadi

43. Which of the following is an example of a Kerala Church in Gothic style ?
    A) Palayam Church, Thiruvananthapuram   B) Edathua Church
    C) Kadamattom Church, Muvattupuzha   D) St. Thomas Church, Mulamthuruthi

44. 'Ettukettu' refers to
    A) Nalukettu with 4 courtyards   B) Double storied Nalukettu
    C) Three storied Nalukettu   D) Nalukettu with 2 courtyards

45. According to 'Vastu shastra', the preferred position of Pooja room in a house is
    A) North-East   B) South-East   C) South-West   D) North-West

46. The Hall of Nations, New Delhi, was designed by
    A) Charles Correa   B) Raj Rewal
    C) Joseph Allen Stein   D) A.P. Kanvinde

47. Match the architects from Group – I with the design movements listed in Group – II.
    Group – I   **Group – II**
    P. Viollet-le-Duc   1. Post modernism
    Q. William Morris   2. Arts and Crafts
    R. Robert Venturi   3. De Stijl
    S. Gerrit Rietveld   4. French Rationalism
    A) P – 4, Q – 2, R – 1, S – 3   B) P – 3, Q – 1, R – 4, S – 2
    C) P – 2, Q – 3, R – 1, S – 4   D) P – 1, Q – 4, R – 2, S – 3

48. Architectural projects designed by Laurie Baker are generally characterized by
    P. Appropriate technology
    Q. Human scale
    R. Interpretation of nine-square model
    S. Use of locally available materials
    A) P, R, S   B) P, Q, S   C) Q, R, S   D) P, Q, R

49. The structural system followed in St. Mary's Axe, London is
    A) Shell   B) Diagrid   C) Exo-skeleton   D) Shear wall

50. Which of the following is not considered as a 'deconstructivist' architect ?
    A) Zaha Hadid   B) Peter Eisenman
    C) Barnard Tschumi   D) Steven Holl

51. Assuming other variables remaining constant, the Tropical Summer Index
    A) Increases with increase in air velocity
    B) Decreases with increase in wet-bulb temperature
    C) Decreases with increase in globe temperature
    D) Increases with increase in vapour pressure

52. Stack effect is
    A) The process of supplying fresh air by electro-mechanical means both vertically and horizontally
    B) The tendency of hot air in a shaft to rise and create a draft of cool air intake
    C) The air-supply to a motor-driven louvered opening in basement
    D) The circulation of fresh air through windows from the plenum level

53. Walls with high thermal inertia are suitable in which type of climate ?
    A) Hot-dry   B) Hot-humid   C) Temperate   D) Cold

54. The ratio between illumination at a working point indoor to total light available simultaneously outdoor is known as
    A) Daylight factor   B) Sky component
    C) Internally reflected component   D) Externally reflected component

55. Pair the groups correctly.
Group – I	**Group – II**
P. Solar constant	1. W/m deg C
Q. Air to air transmittance, U-value	2. 1.4 kW/m^2
R. Volumetric specific heat	3. W/m^2 deg C
S. Conductivity, k-value	4. J/K/m^3 deg C

    A) P – 2, Q – 3, R – 4, S – 1   B) P – 2, Q – 1, R – 4, S – 3
    C) P – 1, Q – 2, R – 3, S – 4   D) P – 4, Q – 3, R – 1, S – 2

56. The parameter that does not appear in a psychometric chart is
    A) Wind speed   B) Dry-bulb temperature
    C) Wet-bulb temperature   D) Relative humidity

57. Corrected effective temperature is an index which combines the effect of
    P. Climatic zone
    Q. Temperature
    R. Wind velocity
    S. Vegetation
    T. Humidity
    U. Solar radiation
    Choose the correct answers.
    A) P, Q, R, S   B) Q, R, T, U   C) Q, S, T, U   D) Q, R, U, P

A

58. 'U-value' refers to
    A) Utility function for convective heat transfer
    B) Thermal transmittance of building components
    C) Energy transfer between thermal bridges
    D) Measure for area related heating and cooling load

59. Climate of Chennai is
    A) Hot and dry
    C) Moderate
    B) Warm and humid
    D) Composite

60. Which of the following materials has the highest thermal mass ?
    A) Sandstone   B) Brick   C) Rammed earth   D) Concrete

61. Function of Air Handling Unit in a building is to
    A) Purify and re-circulate the cool air
    B) Supply purified bulk of air from outside to the window air-conditioner
    C) Collect the stale air from the room and throw it outside the building
    D) Act as a container in which air is carried from one place to the other

62. The principle of Solid Waste Management involves
    A) Reproduce, Reuse, Recycle
    C) Reduce, Reuse, Reproduce
    B) Recycle, Replenish, Reuse
    D) Reduce, Reuse, Recycle

63. Which of the following statements describes the advantage of A.C. supply over D.C. supply ?
    A) Electroplating process
    B) Noise reduction in motors
    C) Facility of transforming from one voltage to another
    D) Charging of storage batteries

64. In a single-stack system of plumbing
    A) All the appliances and traps are fully ventilated
    B) Only WC branches are connected with anti-siphonage pipes
    C) Anti-siphonage pipes are omitted
    D) Only the stack is vented above the branch connection at each floor level

65. Star rating of an air conditioner is determined by its
    A) Power consumption
    C) Cooling capacity
    B) Energy efficiency ratio
    D) Power of compressor

66. Which of the following commands in AutoCad is used to extract one or more elements from a list ?
    A) Filter   B) Boundary   C) Explode   D) Eattext

67. Match the AutoCAD command in Group – I with their functions in Group – II.
    Group – I   **Group – II**
    P. OOPs   1. Creates solid lines
    Q. RAY   2. Restores an erased drawing
    R. TRACE   3. Manages customized user interface elements
    S. CUI   4. Creates semi-infinite line
                    5. Creates a five sided 3D solid with a sloped face tapering along the X-axis
    A) P – 1, Q – 3, R – 2, S – 5   B) P – 2, Q – 4, R – 1, S – 3
    C) P – 2, Q – 1, R – 3, S – 4   D) P – 1, Q – 2, R – 3, S – 4

A   -9-

68. Match the CAD commands in Group – I with their functions in Group – II.

Group – I	**Group – II**
P. LAYISO	1. blends selected object to destination layer
Q. LAYMCH	2. freezes layer of selected object
R. LAYMRG	3. hides or locks layers other than those of selected objects
S. LAYLCK	4. assigns selected object to destination layer
	5. locks object of destination layer

    A) P – 2, Q – 4, R – 1, S – 5   B) P – 3, Q – 2, R – 1, S – 5
    C) P – 4, Q – 2, R – 3, S – 5   D) All of these

69. ArchiCAD, Auto Desk Revit, Digital Project Designer (CATIA) and Vector Works Architect are examples of
    A) Statistical Analysis Software   B) GIS software
    C) BIM software   D) Image processing software

70. In CMYK colour model, 'K' represents the colour
    A) White   B) Black   C) Blue   D) Green

71. A cantilever of length 'l' carries a point load 'W' at the free end. The bending moment diagram will be a
    A) Parabola with maximum ordinate at the centre of the beam
    B) Parabola with maximum ordinate at the cantilever end
    C) Triangle with maximum ordinate at the free end
    D) Triangle with maximum ordinate at the cantilever end

72. The optimistic, most-likely and pessimistic time for developing a new product are 11 months, 15 months and 19 months respectively. Calculate the expected time in months.
    A) 15   B) 16   C) 14   D) 13

73. Associate the structural systems in Group – I with the buildings in Group – II.

Group – I	**Group – II**
P. Folded plates	1. Stonehenge
Q. Shell	2. Kurilpa Bridge, Brisbane
R. Post and lintel	3. Eden Project, Cornwall
S. Pneumatic	4. Riverside Museum, Galsgow
	5. MIT Auditorium, Boston

    A) P – 4, Q – 5, R – 1, S – 3   B) P – 3, Q – 4, R – 1, S – 2
    C) P – 2, Q – 3, R – 1, S – 4   D) P – 2, Q – 3, R – 1, S – 5

74. In Critical Path Method (CPM) for time scheduling, 'forward pass calculation' is carried out for determining
    A) Late start and early finish time   B) Late start and late finish time
    C) Early start and late finish time   D) Early start and early finish time

75. Match the building configuration characteristics in Group – I with their seismic consequences in Group – II.

Group – I	**Group – II**
P. Re-entrant corner	1. Soft storey
Q. Floating column	2. Stress concentration at corner
R. Stiffness irregularity	3. Load path discontinuity
S. Gap between adjacent buildings	4. Vertical asymmetry
	5. Pounding

    A) P – 3, Q – 1, R – 2, S – 4   B) P – 2, Q – 3, R – 1, S – 5
    C) P – 4, Q – 3, R – 2, S – 5   D) P – 3, Q – 5, R – 2, S – 1

A

76. The load on a RCC column is 200 kN. The soil bearing capacity is 75 kN/m². Assuming a factor of safety of 1.5, the side of the square column footing is _____ meter.
    A) 2.5   B) 2.0   C) 1.5   D) 2.3

77. A simply supported beam AB has a clear span of 7 meter. The Bending Moment Diagram (BMD) of the beam due to a single concentrated load is shown in the figure below. The magnitude of the concentrated load in kN is

36 kN-m

A   B

3m   4m
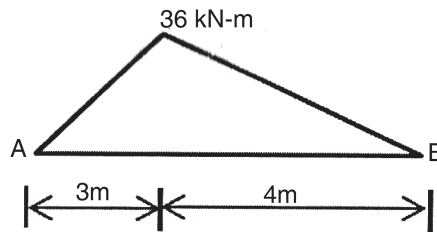
    A) 22   B) 23   C) 21   D) 20

78. A CPM network of a construction project is given in the figure below. The activity durations are mentioned in weeks in table below. The project completion time in weeks will be
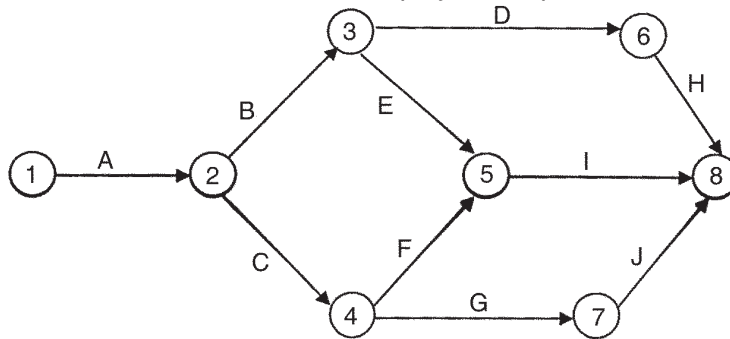
Activity	Estimated Duration	Activity	Estimated Duration
A	5	F	2
B	2	G	3
C	6	H	8
D	4	I	7
E	4	J	2

    A) 20   B) 21   C) 18   D) 22

79. Match the various building materials in Group – I with their units of measurement in MKS in Group – II.

     Group – I   **Group – II**
    P. Brickwork   1. Quintal
    Q. Damp proof course   2. cu.m.
    R. Skirting   3. sq.m.
    S. Doors   4. m.
                             5. no.

    A) P – 3, Q – 1, R – 2, S – 4   B) P – 2, Q – 4, R – 1, S – 5
    C) P – 2, Q – 1, R – 4, S – 5   D) P – 2, Q – 3, R – 4, S – 5

A

80. Which of the following statements is/are correct about types of estimates ?
    i. Supplementary estimate is a detailed estimate and are prepared when additional works are required.
    ii. Supplementary and revised estimate is a detailed estimate and are prepared when additional works are required.
    iii. Revised estimate is a detailed estimate and are prepared when the original sanctioned amount is exceeded.
    A) Only ii and iii
    B) All the above i, ii and iii
    C) Only i and iii
    D) Only i and ii

81. In a mono-centric urban model, land rent is expected to
    A) Diminish as one moves towards the center
    B) Remain constant across the whole urban area
    C) Diminish as one moves away from the center
    D) Be unrelated with distance from center

82. Match the characteristics in Group – I with the type of settlements in Group – II as given in URDPFI guidelines, 2015, Government of India

Group – I	**Group – II**
P. A continuous urban spread constituting a town and its adjoining outgrowths or two or more physically contiguous towns together with or without outgrowths of such towns	1. Counter magnets
Q. Zones of transition from rural to urban land uses located between the outer limits of urban and regional centers and the rural environment	2. Satellite towns
R. A settlement which is located near or within reasonable distance and well connected by transportation route of the growth node or a metropolitan city	3. Urban agglomeration
S. Settlements which have come up near a statutory town but outside its statutory limits but within the revenue limits of a village or villages contiguous to the town	4. Peri-urban areas
	5. Out growth

    A) P – 3, Q – 1, R – 2, S – 4
    B) P – 2, Q – 4, R – 1, S – 3
    C) P – 2, Q – 1, R – 4, S – 3
    D) P – 3, Q – 4, R – 2, S – 5

83. The Constitution (Seventy Fourth Amendment) Act, 1992, provides for Constitution for three types of Municipalities, which are
    A) Nagar Panchayat, Municipal Council and Municipal Corporation
    B) Development Authority, Municipal Corporation and Nagar Panchayat
    C) Nagar Panchayat, Municipal Council and Development Authority
    D) Development Authority, Municipal Corporation and Municipal Council

84. As per the Urban and Regional Development Plan Formulation and Implementation (URDPFI) Guidelines, 2015, choose the correct hierarchy of plans from higher to lower order.
    A) Zonal Plan, Development Plan, Regional Plan, Perspective Plan
    B) Perspective Plan, Regional Plan, Development Plan, Zonal Plan
    C) Regional Plan, Perspective Plan, Zonal Plan, Development Plan
    D) Regional Plan, Perspective Plan, Development Plan, Zonal Plan

85. 'Non-motorized Urban Transport' is a thrust area under
    A) Atal Mission for Rejuvenation and Urban Transformation
    B) Smart Cities Mission
    C) Jawaharlal Nehru National Urban Renewal Mission
    D) Shyama Prasad Mukherji Urban Mission

86. Which of the following policies are part of Transit Oriented Development ?
    i. Network and Connectivity
    ii. Pedestrian Access
    iii. Streetscape Design
    A) Only ii and iii   B) All the above i, ii and iii
    C) Only i and iii   D) Only i and ii

87. 'Area based development' and 'identity to the city' are part of
    A) Atal Innovation Mission   B) Smart City Mission
    C) Digital India Mission   D) Swachh Bharat Mission

88. Match the land use classification for Regional Planning in Group – I with their uses in Group – II.
Group – I	**Group – II**
P. Special Area Zone	1. Poultry and Dairy Farming
Q. Primary Activity Zone	2. Heritage and Conservation
R. Transportation Zone	3. Water Bodies
S. Protective Zone	4. Green Buffer Zone
	5. Freight Complexes

    A) P – 3, Q – 1, R – 2, S – 4   B) P – 2, Q – 4, R – 1, S – 5
    C) P – 2, Q – 1, R – 5, S – 3   D) P – 2, Q – 3, R – 4, S – 5

89. Which of the following statements is/are correct about – The major functions of the Town and Country Planning Department, Kerala ?
    i. Preparation of Spatial Plans at State, District and Local level.
    ii. Technical Secretariat of the Art and Heritage Commission.
    iii. Nodal agency of the Centrally Sponsored Schemes of preparation of GIS based Master Plans under AMRUT.
    A) Only ii and iii   B) All the above i, ii and iii
    C) Only i and iii   D) Only i and ii

90. As per Kevin Lynch, an image of the city includes the following elements
    A) Paths, Edges, Nodes, Landmarks
    B) Paths, Edges, Form, Nodes, Landmarks
    C) Focus, Paths, Edges, Nodes, Landmarks
    D) Paths, Edges, District, Nodes, Landmarks

A

91. A builder develops a residential plot of 3500 sq.m. for group housing in a city. Different options with varying developmental controls are given below. An additional of 15% of the Floor Area Ratio (FAR) over and above the maximum permissible FAR has to be utilized for Economically Weaker Section (EWS) units. The maximum total floor area (in all floors) (in sq.m.) available is

SI. No.	Ground Coverage (%)	FAR
1	30	1.5
2	20	2.0
3	40	2.0
4	15	3.0

A) 12075   B) 12100   C) 12275   D) 12375

92. Match the housing schemes in Group – I with their objectives in Group – II.

    Group – I   **Group – II**
P. IHSDP   1. Housing for all
Q. PMAY (U)   2. Planned development of identified cities with focus on efficiency in urban infrastructure and services delivery
R. BSUP   3. Slum Free India
S. RAY   4. Encourage private sector participation in creation of affordable housing stock
                              5. Holistic slum development with a healthy and enabling urban environment by providing adequate shelter and basic infrastructure

A) P – 2, Q – 3, R – 4, S – 1   B) P – 3, Q – 4, R – 1, S – 5
C) P – 5, Q – 1, R – 2, S – 3   D) P – 1, Q – 3, R – 4, S – 5

93. A residential area of 20 hectares is planned for three different types of plots of 400 sq.m., 300 sq.m., and 200 sq.m. The number of plots in each category is 100, 150 and 200 respectively. The rest of the area is allocated for roads and facilities such as schools, shops and parks. Each plot has one dwelling unit and the average household size is 4 persons. The net residential density of the area in persons per hectare is

A) 150   B) 140   C) 144   D) 154

94. Match the housing projects in Group – I with their architects in Group – II.

        Group – I   **Group – II**
P. Habitat 67, Montreal, Canada   1. Kisho Kurokawa
Q. Tara Apartment, New Delhi, India   2. Moshe Safdie
R. Byker Wall, New Castle, England   3. Charles Correa
S. Nagakin Capsule Tower, Tokyo, Japan   4. Ralph Erskine
                                       5. Walter Gropius

A) P – 2, Q – 3, R – 4, S – 1   B) P – 3, Q – 4, R – 1, S – 5
C) P – 3, Q – 1, R – 4, S – 5   D) P – 1, Q – 3, R – 4, S – 5

95. Which of the following is an area of work of BMTPC ?
  i. Building Material and Construction Technologies.
 ii. Disaster Mitigation and Management.
iii. Capacity Building and Skill Development.

A) Only ii and iii   B) All the above i, ii and iii
C) Only i and iii   D) Only i and ii

A

96. Which of the following is a condition of CENSUS House as per Census, 2011 ?
    i. Good
    ii. Bad
    iii. Dilapidated
    iv. Livable
    A) Only i, ii and iii
    B) All the above i, ii, iii and iv
    C) Only i, iii and iv
    D) Only i and ii

97. Match the Five Year Plans listed under Group – I with their corresponding feature from Group – II.

Group – I	**Group – II**
P. Fifth Five Year Plan	1. Establishment of HUDCO
Q. Fourth Five Year Plan	2. Formation of TCPO
R. Seventh Five Year Plan	3. Introduction of JNNURM
S. Tenth Five Year Plan	4. National Housing Bank
	5. Passing of Urban Land Ceiling and Regulation Act

    A) P – 5, Q – 2, R – 4, S – 3
    B) P – 5, Q – 1, R – 4, S – 3
    C) P – 4, Q – 2, R – 2, S – 5
    D) P – 1, Q – 2, R – 3, S – 5

98. Which of the following is a function of the National Housing Bank ?
    i. Promote housing finance institutions
    ii. Extending refinance to different primary lenders
    iii. Acting as Special Purpose Vehicle for securitising the housing loan receivables
    iv. Regulate the housing finance system
    A) All the above i, ii, iii and iv
    B) Only i and iii
    C) Only i and ii
    D) Only i, ii and iii

99. The sequence of development in a Site-and-Services Scheme is
    A) Land – Service – House – Occupant
    B) Occupant – Land – House – Service
    C) Occupant – Land – Service – House
    D) Land – Occupant – House – Service

100. In 2011, the population of a town was 6,00,000. The number of housing units were 1,20,000. Calculate the additional number of Dwelling Units (DU) required by 2031 so that there is no housing shortage. The assumptions are
    i. 5% decadal increase in population
    ii. New DU to be completed by 2021 is 15000
    iii. Number of DU which will become non-habitable by 2031 is 5000
    iv. Average household size is 4.5
    A) 16500
    B) 18000
    C) 17500
    D) 17000

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Space for Rough Work