

This Question Booklet contains
12 printed pages

PGMAR

A
Seal Sticker

Total Marks : 100
Time : 100 Minutes

Question
Booklet
Code :

A

Candidate's
Seat No. :

Candidate's Signature _____ Block Supervisor's Signature _____

DO NOT OPEN QUESTION BOOKLET UNTIL INSTRUCTED.

INSTRUCTIONS FOR CANDIDATE:

1. Check Number printed on your OMR SHEET and Question Paper with your SEAT No. before answering the questions. Consult block supervisors in case the above mentioned numbers do not match with your seat number.
2. There are total 100 questions. For answer of each question A, B, C, D, E options are given in OMR SHEET. In OMR SHEET, there is "E" option. "E" option is for "Not Attempted". If candidate do not wish to answer the question he/she should select "E" option (Not Attempted). All questions are compulsory.

For Example:

Which state of India has the longest sea shore ?

A ☐ B ☐ C ☒ D ☐ E ☐

(A) Maharashtra (B) Tamilnadu
(C) Gujarat (D) Andhra Pradesh

In this example, the right answer is (C). Therefore, the Circle of (C) has been darkened (encoded). Candidate should not give the answer "Gujarat" in writing.

The options once darkened/answered by candidate cannot be changed.

3. Candidates are not permitted to leave examination hall during examination.
4. Candidates must strictly enter SEAT NO. in the designated space provided in OMR SHEET as well as Question Paper neatly as soon as they receive the OMR SHEET & Question Paper.
5. Candidates must not write name or put any identification sign/symbol on OMR SHEET. In such case strict disciplinary action will be taken against candidate & will be considered disqualified/ineligible. Only Seat No. must be

entered at designated space provided in OMR SHEET.

6. Both, Candidate's & Supervisor's signature must be done on Certificate of OMR SHEET. Unsigned OMR SHEET would not be considered for evaluation.
7. Candidates are not permitted to use or carry with them any kind of literature, guide, hand written notes, or printed books, mobile phone, pagers, smart watches, camera or any electronic gadgets to examination hall.
8. Use of only Non-scientific / Non-programmable calculator shall allow during examination.
9. Candidates are not permitted to talk/discuss in the Examination Hall. Any candidate found violating supervisor's instructions will be disqualified.
10. Candidates must fully darken circle A, B, C, D and E accordingly with Blue / Black ball pen. If answers are marked with any other coloured ball pen, pencil, white ink (whitner), any corrections are done by candidate by means of blade or rubber or whitner will not be considered for evaluation.
11. Candidates may carry QP with them after Examination.
12. **For correct answer 1 (One) marks will be given.**

If candidate gives more than one option as answer for one question in answer sheet (OMR SHEET), or gives wrong answer then the candidate will be allotted Zero (0) marks.

If candidate does not want to answer a particular question and marks (E) or leave the option without encoding on OMR sheet, then no minus marks will be given.

Submit the OMR SHEET to the block supervisor after completion of examination without fail before leaving examination hall, failure to do so will result in disqualification of the candidature for the examination and disciplinary action will be taken against such candidate.

1. The cavity wall is generally provided for
 (A) preventing dampness (B) heat insulation
 (C) sound insulation (D) all of the above
2. The intensity of sound is proportional to _____ of amplitude.
 (A) Square root (B) Cube root
 (C) Square (D) Cube
3. Which of the following commands in AUTOCAD is used to create 3D solid between various cross sections?
 (A) LOFT (B) WDEGES
 (C) MESH (D) PFACE
4. As per the Ancient Monuments and Archaeological Sites and Remains Act, 2010, the extent of 'prohibited area' beyond the 'demarcated protected area' in meters is
 (A) 50 (B) 75
 (C) 25 (D) 100
5. Which of the following data is not required to prepare an estimate?
 (A) Amplitude (B) Drawings
 (C) Specifications (D) Rates
6. The water enters into chemical action with cement and this action causes _____ and _____ of concrete.
 (A) Swelling, shrinkage (B) Expansion, contraction
 (C) Setting, hardening (D) Strong, weak
7. As per Census of India 2011, Nagar Panchayat refers to
 (A) Rural area surrounded by a growing city
 (B) Urban area within a panchayat
 (C) Rural area adjacent to a Nagar
 (D) Urban area with a statutory local government
8. The traffic assignment technique where the traffic arranges itself in congested networks such that the journey time in all used routes between an Origin-Destination pair are equal and less than those that would be experienced in all unused routes. This is known as
 (A) System equilibrium (B) All-or-nothing
 (C) User equilibrium (D) Incremental
9. 'Volume Zero' is a film based on the architectural works of
 (A) Peter Eisenman (B) Daniel Libeskind
 (C) Charles Correa (D) Roger Angers
10. Fineness modulus of sand measures its
 (A) Compressive strength (B) Bulking of sand
 (C) Grading according to particle size (D) Ratio of coarse and fine sand
11. Which of the following is not a type of composite masonry?
 (A) Brick composite masonry (B) Stone composite masonry
 (C) Cement concrete masonry (D) Glass block masonry

12. Which of the following statements is correct?
 (A) Pitch of the sound increases with increase in frequency
 (B) Pitch of the sound decreases with increase in frequency
 (C) Decibel is equal to 1/100 of bel
 (D) Increase in the amplitude of the sound decreases the intensity
13. Map is an _____ projection.
 (A) Isometric (B) Orthographic
 (C) Axonometric (D) Oblique
14. The Great bath of the Harappa Civilization has been found at
 (A) Mohen-jo-daro (B) Harappa
 (C) Rangpur (D) Kalibangan
15. While fixing rate per unit of an item, the quantity of materials and labour needed for one unit of an item are strictly per
 (A) Specific Data Record (B) Standard Data Book
 (C) Special Data Record (D) Special Data Book
16. The ratio of the amount of water to the amount of cement by weight is termed as the _____.
 (A) Water-cement ratio (B) Aggregate-sand ratio
 (C) Cement-water ratio (D) Sand-aggregate ratio
17. As per National Building Code 2005, the minimum size of a habitable room in m² is
 (A) 9.5 (B) 10.5
 (C) 11.5 (D) 12.5
18. _____ type of survey conducted at local level for re-development scheme, slum improvement scheme the different forms of town survey.
 (A) Regional survey (B) National survey
 (C) Civic survey or socio-economic survey (D) Preliminary survey
19. _____ is a semi-circular projection which is formed on the edges of surfaces of wood.
 (A) Bead (B) Batten
 (C) Chamfering (D) Groove
20. The curve traced by a point on a circle rolling inside another circle is known as
 (A) hypocycloid. (B) involute.
 (C) helix. (D) hyperbola.
21. The temporary framework is known as _____ and it is useful in construction demolition, maintenance or repair works.
 (A) Grouting (B) Scaffolding
 (C) Shoring (D) Underpinning
22. Which of the following is not a characteristic of sound?
 (A) Intensity (B) Frequency
 (C) Speed (D) Quality

23. In AUTOCAD, a line of infinite length in the direction defined by starting point and through point, is known as
 (A) LINE (B) XLINE
 (C) PLINE (D) RAY
24. Spatial connectedness in GIS refers to
 (A) Tomography (B) Topography
 (C) Topiary (D) Topology
25. Which of the following is not a method used for preparing approximate estimates?
 (A) Cubical contents method (B) Unit base method
 (C) Plinth area method (D) Cylindrical base method
26. If the concrete mix is too wet, the _____ settle at the bottom of concrete Masha and the resulting concrete becomes of non-uniform - composition.
 (A) Fine aggregate (B) Sand
 (C) Cement (D) Coarse aggregate
27. Which plan give a perspective picture of a fully developed town
 (A) Master Plan (B) Layout Plan
 (C) Grid Plan (D) None of the above
28. The urban land use model based on the concept of a polycentric city is known as
 (A) Burgess Model. (B) Hagerstrand's Model.
 (C) Harris and Ullman Model. (D) Homer Hoyt's Model.
29. Which of the following is not a variety of industrial timber?
 (A) Veneers (B) Fibreboard
 (C) Plywood (D) Baulk
30. Which of the following parameters is essential to estimate the Envelope Performance Factor (EPF) of a building as per the Energy Conservation Building Code (ECBC), 2011?
 (A) Building Type
 (B) Maximum and minimum monthly temperature
 (C) Maximum humidity
 (D) Building occupancy duration
31. In which of the following type of construction, the square or rectangular blocks of stones are used?
 (A) Rubble masonry (B) Rock Masonry
 (C) Ashlar masonry (D) Brick masonry
32. Which of the following relations between loudness and intensity is correct?
 (A) $I \propto \log L$ (B) $I \propto \log L^2$
 (C) $L \propto \log I$ (D) $L \propto \log I^2$
33. Which of the following is the National Electronic Toll Collection System implemented by the National Payment Corporation of India?
 (A) E pass (B) e-zpass
 (C) Fusetag (D) Fasttag

34. Which of the following is NOT a classical spatial theory of land use planning?
(A) Concentric Zone Theory (B) Centripetal Theory
(C) Multiple Nuclei Theory (D) Sector Theory
35. In the cubical content method, the cost of a structure is computed by the multiplication of total cubic contents and _____.
(A) Area of building (B) Volume of building
(C) Local cubic rate (D) Length of building
36. The concrete having bulk density between 5 kN/m^3 to 18 kN/m^3 is known as _____.
(A) Lightweight concrete (B) Coloured concrete
(C) No-fines concrete (D) Heavyweight concrete
37. Statutory setback of a building depends on
(A) Building height (B) Property boundary
(C) Width of access road (D) Ground coverage
38. Complementary colours in a Munsell pigment colour wheel refers to
(A) Colours in alternate positions (B) Colours adjacent to each other
(C) Colours opposite to one another (D) A pair of secondary colours
39. Star Rating of an Air Conditioner is determined by its
(A) Power Consumption (B) Cooling Capacity
(C) Energy Efficiency Ratio (D) Power of Compressor
40. In _____ types of stairs, the steps radiate from the centre and they do not have either any landing or any intermediate Newel post.
(A) Helical (B) Geometrical
(C) Turning (D) Straight
41. Which of the following is a non-combustible building material with low coefficient of expansion?
(A) Glass (B) Asbestos cement
(C) Brick (D) Sandstone
42. Removal of inside air and supply of fresh outside air in a closed room is known as _____.
(A) Ventilation (B) Absorption
(C) Adsorption (D) Transmission
43. 'Dharahara' refers to
(A) Concept of Vastu Shastra
(B) Heritage tower at Kathmandu
(C) Construction method of Buddhist Architecture
(D) Elevation feature of a Hindu Temple
44. The master plan of new Delhi was prepared by:
(A) Maciej Nowicki (B) Le Corbusier
(C) Edwin Lutyens (D) Maxwell Fry

45. Calculate the number of cement bags required for 2500 kg of cement.
 (A) 50 (B) 100
 (C) 500 (D) 200
46. For _____ mixing, the materials (Cement, Fine Aggregate and Course Aggregate) are stacked on watertight platform, which may be either of wood, Brick or steel.
 (A) Machine (B) Roller
 (C) Hand (D) Mixer
47. As per National Building Code of India, 2016, the function of an Automatic Rescue Device is
 (A) to bring a stuck lift to the nearest landing level.
 (B) control fire in electrical system at plenum level.
 (C) control the escape route lighting system.
 (D) trigger fire sprinkler system.
48. As per urban design principles proposed by Gordon Cullen, Rashtrapati Bhavan, New Delhi, is an example of
 (A) Serial Vision. (B) Occupied territory.
 (C) Pinpointing. (D) Here and there.
49. In a flat slab, the load is transferred through
 (A) Beam action (B) Plate action
 (C) Membrane action (D) Vector action
50. Which of the following is NOT a mechanism of bond resistance in reinforced concrete?
 (A) Chemical adhesion (B) Mechanical interlock
 (C) Friction (D) Aggregate interlock
51. Trusses are used in trussed roofs to support the _____.
 (A) Roofing Materials (B) Rafters
 (C) Purlins (D) Beams
52. Relative humidity of saturated air is _____ %
 (A) 20 (B) 50
 (C) 80 (D) 100
53. In traditional Indian temple architecture, which of the following statement(s) is/are not true?
 (A) Jagamohana refers to a dancing hall
 (B) Gopuram refers to an entrance tower
 (C) Char-chala refers to a roof composed of four triangular segments
 (D) Vimana refers to the structure over the Garbhagriha
54. 'Summit Curve' is a term associated with the design of
 (A) Roads and flyovers (B) Tensile fabric structures
 (C) Escalators and elevators (D) Geodesic domes
55. The unit of payment of cement concrete in lintels is
 (A) Per sqm (B) Per cum
 (C) Quintal (D) Kilograms

56. _____ vibrators are attached to the form work and the external centring of walls, column, Etc.
- (A) Shutter vibrators (B) Surface vibrators
(C) Internal vibrators (D) Immersion vibrators
57. What is a full form of GTPUDA _____?
- (A) Gujarat Town Planning and Urban Development Act
(B) Gujarat Transport Planning and Urban Design Act
(C) Gujarat Transport Planning and Urban Development Act
(D) Gujarat Town Planning and Urban Design Act
58. As a principle of planning, the term is used to mean architectural hygiene.
- (A) Sanitation (B) Water supply
(C) Drainage (D) Waste water
59. There is initial _____ of cement concrete which is mainly due to loss of water through forms, absorption by surfaces of forms, etc.
- (A) Swelling (B) Dispersion
(C) Cracking (D) Shrinkage
60. Identify the colour palette that is created using any three equally spaced hues around the colour wheel.
- (A) Split - complementary (B) Triads
(C) Analogous (D) Complementary
61. In a king-post truss, which of the following types of joints is used to join the king-post to the ends of principal rafters at its head?
- (A) Dovetail joint (B) Open and pin joint
(C) Pin and tenoned joint (D) Tenon and mortise joint
62. Reverberation time is directly proportional to _____.
- (A) Effective surface area (B) Lateral surface area
(C) Volume of the room (D) Shape of the room
63. The concept of 'Dry Garden' is associated with _____ Garden.
- (A) Egyptian (B) Chinese
(C) Mughal (D) Japanese
64. What is the dependent variable in a regression-based trip generation model?
- (A) Population of Traffic Analysis Zone (B) Number of employees
(C) Number of trips (D) Number of households
65. Which of the following is not a method of working out quantities like earthwork and brickwork in plinth?
- (A) Long wall-short wall method (B) Centre line method
(C) Thick wall – thin wall method (D) Partly centre line and short wall method
66. Lime is obtained from the calcination of _____.
- (A) Lime-silica (B) Limestone
(C) Sandstone (D) Lime-concrete

67. Necessity of master plan is
 (A) To control the growth of various industries in a systematic way.
 (B) To give a perspective picture of a fully developed town.
 (C) To discourage the growth of town in an unplanned and unscientific way.
 (D) All of the above
68. In _____ floors, the small sections of rolled Steel joists are placed in concrete
 (A) Jack arch floors (B) Rib floor
 (C) RCC floor (D) Filler joists
69. An element constructed at intervals along the length of a wall to stabilize it against overturning is
 (A) Barrel Vault (B) Squinch Arch
 (C) Pilaster (D) Buttress
70. _____ joints are employed to extend the width of board or planks, which are placed edge to edge.
 (A) Angle (B) Lapped
 (C) Widening (D) Oblique
71. A spread is given under the base of a wall or common is known as _____.
 (A) Piles (B) Pier
 (C) Footing (D) Plinth
72. In which of the following absorbents, absorption takes place due to the frictional losses occurring due to the to and from movement of the air contained in the material caused by the sound waves?
 (A) Cavity resonators (B) Resonant panels
 (C) Porous materials (D) Composite types
73. Typical features of Buddhist architecture are
 (A) Mandapa, Chattri, Amalaka, Torana (B) Stambha, Torana, Vimana, Harmika
 (C) Vedika, Chattri, Torana, Harmika (D) Vedika, Stupa, Chaitya, Vimana
74. Landscape design of Shakti Sthal, the 'Samadhi' of late Prime Minister Smt. Indira Gandhi, was done by architect
 (A) Ram Sharma (B) Ravindra Bhan
 (C) Mohammad Shaheer (D) Raj Rewal
75. To get the quantities, the lengths found using the long wall- short wall method are multiplied with _____.
 (A) Width (B) Weight
 (C) Thickness (D) Breadth and depth
76. Arrange the following road types in descending order of accessibility
 (P) Arterial Road (Q) Expressway (R) Collector Road (S) Local Street
 (A) Q - P - R - S (B) S - P - R - Q
 (C) P - Q - S - R (D) P - Q - S - R

77. The concept of Transit Oriented Development (TOD) refers to
 (A) Transit oriented planning in institutional campuses
 (B) Orienting residential blocks towards the transit in a gated community
 (C) High density development along a mass transit corridor
 (D) Spatial design for persons with disabilities along a mass transit corridor
78. Which of the following defects occur in the seasoning process of wood?
 (A) Brown rot (B) Sap stain
 (C) Bow (D) Blue stain
79. Segregation at source' is a concept associated with
 (A) Solid waste management (B) Traffic management
 (C) Disaster management (D) Water management
80. Super-elevation of a road with pre-determined radius of curvature is primarily dependent on
 (A) Altitude (B) Traffic volume
 (C) Soil bearing capacity (D) Design traffic speed
81. The horizontal course provided at suitable levels between the plinth and the cornice is termed as a _____.
 (A) String Course (B) Cornice
 (C) Corbel (D) Sill
82. Because of high concentration of reflected sound at the Sound foci, there is a deficiency of reflected sound at some point known as _____.
 (A) Live spots (B) Dead spots
 (C) Sound foci (D) Reverberation
83. The term 'Necropolis' refers to
 (A) Organically growing settlement (B) Origin of a settlement
 (C) A dead settlement (D) Merging of two settlements
84. Gandhinagar and Chandigarh's planning is based on _____.
 (A) Rectangular grid pattern (B) Concentric and radial street pattern
 (C) Rectangular with diagonal pattern (D) Radial street pattern
85. Which of the following is a Nondestructive Test for checking quality of RCC?
 (A) Rebound hammer Test (B) Ultrasonic Test
 (C) Radioactive Test (D) All of the above
86. Which of the following processes is used for surface treatment\ of metals?
 (A) Soldering (B) Extrusion
 (C) Thermoplasting (D) Riveting
87. A _____ is a small unit which serves the local community and encourages them to foster a neighbourhood spirit or relationship which seems to have been lost in the modern city life.
 (A) Neighbourhood (B) Town
 (C) City (D) None of the above

88. BEES is an acronym for
(A) Building for Environmental and Economic Sustainability
(B) Building for Energy and Environment Sustainability
(C) Built Environment and Ecological Society
(D) Built Environment and Engineering Services
89. The spherical surface of the geodesic dome comprises of
(A) Equilateral triangles of various sizes (B) Equilateral triangles of uniform size
(C) Isosceles triangles of various sizes (D) Isosceles triangles of uniform size
90. Rebound hammer test is used to measure
(A) permeability of concrete.
(B) compressive strength of concrete.
(C) bond stress between rebar and concrete.
(D) tensile strength of concrete.
91. Stones which are placed at regular interval right across the wall are known as _____.
(A) Spalls (B) Through stones
(C) Reveals (D) Springer
92. _____ defect is due to the lack of reflecting surfaces near the source of sound and excessive absorption of sound in the hall.
(A) Exterior noise (B) Loudness
(C) Interior noise (D) Echoes
93. A semicircular niche in the wall of a mosque, towards the direction of Mecca is known as
(A) Sahn (B) Minbar
(C) Qibla (D) Mihrab
94. As per CPWD Guidelines and Space Standards for Barrier Free Built Environment, the minimum turning radius for a wheelchair in mm is
(A) 900 (B) 1200
(C) 1500 (D) 1800
95. Which of the following is a Test for checking quality of RCC?
(A) Slump test (B) Compressive strength test
(C) Drying shrinkage test (D) All of the above
96. Which of the following is not a type of Inorganic building materials?
(A) Gypsum (B) Mud
(C) Wood (D) Lime
97. In a mono-centric urban model, land rent is expected to
(A) diminish as one moves towards the centre
(B) remain constant across the whole urban area
(C) diminish as one moves away from the centre
(D) be unrelated with distance from centre

98. Orbit Tower built at the London Olympic Park has been designed by
(A) Foster & Partners (B) Zaha Hadid & Antony Gormley
(C) Anish Kapoor & Cecil Balmond (D) Richard Rogers & Renzo Piano
99. A _____ is a sloping surface and it is adopted as a substitute for stair for easy connection between the floors.
(A) Rise (B) Pitch
(C) Ramp (D) String
100. Which of the following type of foundation is used for the construction of building on black cotton soil?
(A) Grillage foundation (B) Floating foundation
(C) Inverted arch foundation (D) Mat foundation

SPACE FOR ROUGH WORK / રફ કામ માટેની જગ્યા