

Question Paper and Answer Keys for the post of Assistant (Arch. Dept.)

Written Recruitment Examination for filling up of the post of Assistant (Arch. Dept.) in APWD was held on 18/02/2023 from 2.30 pm to 4.30 pm at Port Blair. The Question Paper and the Answer Keys of the written examination received from the agency engaged for conduct of examination is hereby published. The candidates may submit their claims & objections if any, through email to ceapwd.recruitment@gmail.com **on or before 6th March, 2023 at 5.00 pm.**

No claims & objections will be entertained beyond the date & time mentioned above.

Date of Examination: 18.02.2023

Answer Key For Assistant Architecture Department

Q. No.	Answer	Q. No.	Answer	Q. No.	Answer	Q. No.	Answer	Q. No.	Answer
1	B	21	A	41	B	61	B	81	A
2	C	22	B	42	A	62	C	82	B
3	D	23	C	43	C	63	D	83	C
4	A	24	D	44	A	64	D	84	C
5	A	25	C	45	D	65	C	85	A
6	B	26	D	46	A	66	B	86	C
7	B	27	B	47	B	67	A	87	D
8	C	28	D	48	D	68	D	88	C
9	A	29	B	49	A	69	B	89	C
10	D	30	A	50	C	70	A	90	D
11	A	31	C	51	B	71	A	91	A
12	D	32	B	52	A	72	D	92	A
13	C	33	B	53	D	73	A	93	A
14	A	34	C	54	C	74	C	94	C
15	A	35	D	55	C	75	D	95	C
16	C	36	D	56	A	76	A	96	A
17	D	37	D	57	C	77	D	97	C
18	C	38	A	58	A	78	A	98	A
19	A	39	B	59	B	79	A	99	B
20	B	40	C	60	D	80	C	100	B

All question carry equal marks. Attempt all questions. Max. Marks: 100. Time: 2 hours

Part I

1. Which is Tudor arch?



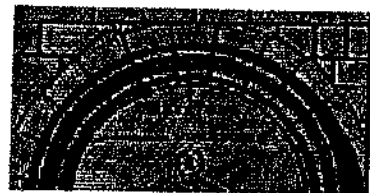
A



B



C



D

2. Choose the modular size of a brick in cm.

(A) 10x10x20

(B) 9x9x9

(C) 9x9x19

(D) 12x7.5x21.5

3. Choose the right example for a 'signified' in Mughal landscape architecture.

(A) Water

(B) Flowering plants

(C) Cascades

(D) Heaven

4. Identify the country where *sand gardens* originate?

(A) Japan

(B) China

(D) South Korea

(D) North Korea

5. Identify the botanical name of *jack fruit tree*.

- (A) *Artocarpusheterophyllus*
- (B) *Cocos nucifera*
- (C) *Mangiferaindica*
- (D) *Plumeriarubra*

6. A pattern cannot be created by which of the following method?

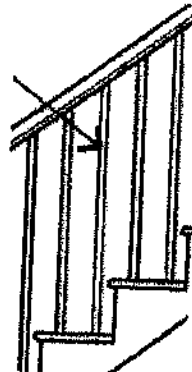
- (A) Repetition
- (B) Enlargement
- (C) Mirroring
- (D) Array

7. The formula for calculating pressure (P) at a given depth (h) of liquid is?

- (A) $P=h \cdot \rho \cdot g$
- (B) $P=h \cdot d \cdot g$
- (C) $P=2\pi r \cdot h \cdot d$
- (D) $P=\pi r^2 h$

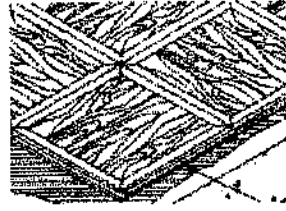
8. Identify the stair element pointed by the arrow.

- (A) Handrail
- (B) Wooden Rail
- (C) Baluster
- (D) Naval Post



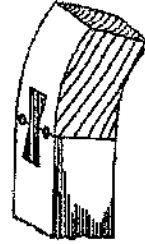
9. Identify the flooring type from the figure.

- (A) Parquet
- (B) Herringbone
- (C) Vitreous tile
- (D) Granite



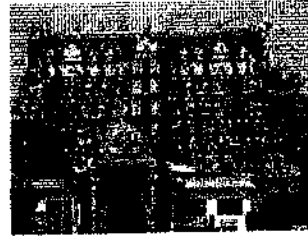
10. Identify the wooden joint type from the figure.

- (A) Mortis and Tenon
- (B) Dovetail
- (C) Lap joint
- (D) Double Dovetail



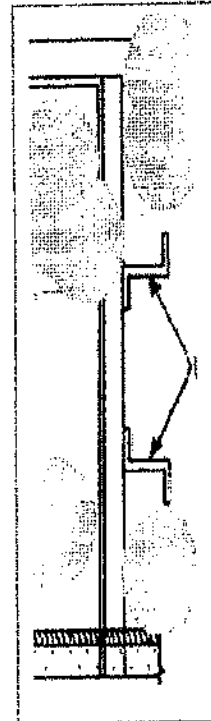
11. Identify the temple from the figure.

- (A) Padmanabha Temple
- (B) Meenakshi Temple
- (C) Somanath Temple
- (D) Ramanathaswamy Temple



12. Identify the elements of the steel door shown in the figure using arrows.

- (A) Brackets
- (B) Z- plates
- (C) Hinges
- (D) Holdfasts

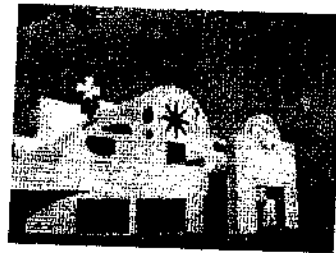


13. Who designed the TATA Theatre in Mumbai?

- (A) Louis Khan
- (B) Nari Gandhi
- (C) Philip Johnson
- (D) Le Corbusier

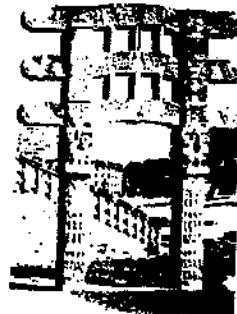
14. Identify the building.

- (A) Parumala Church
- (B) Salvacao Church
- (C) Our Lady of Salvation Church
- (D) St John's Metropolitan Cathedral



15. Identify the architectural element shown figure.

- (A) Torana
- (B) Stupa
- (C) Lion Pillar
- (D) Architrave



16. The author of the book 'Towards a New Architecture' is.

- (A) Buckminster Fuller
- (B) Chrles Correa
- (C) Le Corbusier
- (D) Mies van der Rohe

17. Name the Architectural style of *Robie House*.

- (A) Regionalism
- (B) Modern Architecture

(C) Hippie Movement

(D) Prairie School

18. What is Minimum Permissible Stress Limits (N/mm^2) in Group B of Structural Timbers (Grade I Material)?

(A) 18.5

(B) 15

(C) 12

(D) 8.5

19. Definition for a Short column is.

(A) where S/d does not exceed 11

(B) where S/d is between 11 and K_8

(C) where S/d does exceed 11

(D) where S/d is between 8 and K_8

20. What is Sliver?

(A) Lignin

(B) Thin strips of bamboo processed from bamboo culm

(C) Bamboo Culm

(D) Cellulose in bamboo

21. What is Crookedness?

(A) Localized deviation from the straightness in a piece of bamboo.

(B) Bending in bamboo

(C) Defect occurring on account of excessive shrinkage.

(D) Split at the end of a bamboo.

22. What is Grade-I Bamboo means?

(A) $70\text{mm} < \text{Diameter} < 100\text{mm}$

(B) $50\text{mm} < \text{Diameter} < 70\text{mm}$

(C) $30\text{mm} < \text{Diameter} < 50\text{mm}$

(D) Diameter $\leq 30\text{mm}$

23. What is the angular distance of any point of celestial sphere, measured from the horizon, on the great circle passing through the body and the zenith is called?

(A) Nadir

(B) Zenith angle

(C) Altitude

(D) Azimuth

24. What is the measure of total daylight illuminance at a point on a given plane expressed as the ratio which the illuminance at the point on the given plane bears to the simultaneous illuminance on a horizontal plane due to clear design sky at an exterior point open to the whole sky vault, direct sunlight being excluded?

(A) Total daylight illuminance from the sun.

(B) Daylight Area

(C) Daylight penetration

(D) Daylight Factor

25. What is Dilution Ventilation?

(A) The amount of air leakage into or out of a building or room.

(B) Amount of outdoor air let out.

(C) Supply of outside air to reduce the air-borne concentration of contaminants in the building.

(D) Amount of indoor air let out.

26. Hip roof is formed by surfaces sloping in

- (A) One direction
- (B) Two directions
- (C) Three directions
- (D) Four directions

27. Maximum bending moment (kNm) in a simply supported beam of 8 m span subjected to a uniformly distributed load of 20 kN/m (inclusive of its self-weight) over the entire span is

- (A) 2.5
- (B) 160
- (C) 240
- (D) 320

28. In the Taipei 101 building, the steel sphere as TMD (Tuned Mass Damper) is suspended to reduce horizontal sway due to

- (A) Settlement & Wind Load
- (B) Wind & Geothermal Load
- (C) Seismic & Geothermal Load
- (D) Seismic & Wind Load

29. Arrange the following in ascending order of width

- P. Collector Street Q. Arterial Road
R. Local Street S. Sub-Arterial Road
- (A) P, Q, S, R
 - (B) R, P, S, Q
 - (C) Q, S, R, P
 - (D) Q, S, P, R

30. Hiroshima Peace Memorial Museum in Japan has been designed by

(A) Kenzo Tange

(B) Masashi Kishimoto

(C) Tadao Ando

(D) I M Pei

31. In escalators, the angle of inclination with the horizontal plane should be in the range of

(A) 10° - 15°

(B) 20° - 25°

(C) 30° - 35°

(D) 40° - 45°

32. Horizontally Wedge-shaped Treads in stairways are termed as

(A) Stringers

(B) Winders

(C) Scotia

(D) Newel

33. 'Volume Zero' is a film based on the architectural works of

(A) Peter Eisenman

(B) Charles Correa

(C) Daniel Libeskind

(D) Roger Angers

34. Statutory setback of a building depends on

(A) Size of Plot

(B) Property boundary

- (C) Width of access road
- (D) Ground coverage

35. Collapse of the World Trade Center (WTC), New York, in 2001, was due to

- (A) Wind load failure
- (B) Foundation failure
- (C) Thermal performance failure of RCC
- (D) Thermal performance failure of structural steel

36. Bamboo is a type of

- (A) Shrub
- (B) Timber
- (C) Evergreen tree
- (D) Perennial grass

37. During the construction of tall buildings, the equipment used for hoisting building materials to the upper floors is a

- (A) Goods lift
- (B) Capsule lift
- (C) Gantry crane
- (D) Tower crane

38. The concentric circles in a solar chart represent:

- (A) Azimuth angle
- (B) Altitude angle
- (C) Horizontal shadow angle
- (D) Vertical shadow angle

39. The compressive strength of M-25 concrete is

- (A) 25 kg/sqm
- (B) 25 N/sqmm
- (C) 250 N/sqmm
- (D) 2.5 N/sqmm

40. The unit of measurement of wall painting in building is?

- (A) kg
- (B) cu m
- (C) sq m
- (D) mm

41. In Critical Path Method (CPM) for time scheduling, 'forward pass calculation' is carried out for determining

- (A) Late start and early finish time
- (B) Early start and early finish time
- (C) Late start and late finish time
- (D) Early start and late finish time

42. 'Segregation at source' is a concept associated with

- (A) Solid waste management
- (B) Nuclear waste management
- (C) Liquid waste management
- (D) Water management

43. In a flat slab, the load is transferred through

- (A) Beam action
- (B) Membrane action
- (C) Plate action
- (D) Vector action

44. The estimated number of bricks (unit size: 250 mm × 125 mm × 75 mm) for laying one course of a 250 mm thick brick wall using rat-trap bond for a running length of 3.9 meter will be ____?

- (A) 36
- (B) 16
- (C) 31.2
- (D) 52

45. A Spatial connectedness in GIS refers to

- (A) Tomography
- (B) Topography
- (C) Topiary
- (D) Topology

46. One Super plasticizer is added in a concrete mix to

- (A) Reduce the water-cement ratio for a given workability
- (B) Increase the water-cement ratio for a given workability
- (C) Reduce the flow rate
- (D) Reduce the coarse aggregate quantity

47. Maximum permissible wear in stones for road work is

- (A) 1%
- (B) 2%
- (C) 3%
- (D) 4%

48. Chain surveying uses the principle of:

- (A) Traversing
- (B) Chaining
- (C) Ranging
- (D) Triangulation

49. Which aquifer is called water table aquifer?

- (A) Unconfined aquifer
- (B) Confined Aquifer
- (C) Ground aquifer
- (D) Connate aquifer

50. Trabeated system of architecture refers to:

- (A) Arches & Columns
- (B) Flying Buttresses
- (C) Post and Lintel
- (D) Arches & Domes

51. Which of the following is not a quality of 'Form'?

- (A) Shape
- (B) Smell

(C) Texture

(D) Colour

52. Paleopolis means?

(A) Ancient City

(B) Great city

(C) Growing city

(D) Abandoned city

53. Which Indian city has Linear Layout?

(A) Delhi

(B) Chandigarh

(C) Surat

(D) Kolkata

54. One hectare is equal to?

(A) 1.0 sq km.

(B) 0.1 sq km.

(C) 0.01 sq km

(D) 0.001 sq km

55. Which of the following constitutes a component under physical infrastructure?

(A) Community health center

(B) Bank

(C) Power supply

(D) Elementary school

56. Which of the following is an example of a grade separator?

- (A) An over bridge above railway line
- (B) A railway crossing
- (C) A round about
- (D) Junction with traffic signals

57. In PERT, which of the following is true.

- (A) The probable time estimate is calculated as $t = (a + 4m + b)/6$.
- (B) Optimistic time estimate is an estimate of the maximum time an activity will require.
- (C) Optimistic time estimate is an estimate of the minimum time an activity will require.
- (D) None of the above

58. Design

principle used in the below given figure?



- (A) Balance
- (B) Unity
- (C) Proportion
- (D) Movement

59. Activity in a network diagram is represented by?

- (A) Rectangles
- (B) Arrow
- (C) Squares
- (D) Circle

60. Central Park was designed by which of the following landscape architect?

- (A) Thomas Dolliver Church
- (B) Martha Schwartz
- (C) Daniel Libeskind
- (D) Frederick Law Olmsted

61. Design with nature is written by whom?

- (A) Jeff Speck
- (B) Ian McHarg
- (C) Jan Gehl
- (D) William Whyte

62. The red series of the modular man was developed by

- (A) Andre LE Notre
- (B) Vitruvius
- (C) Le Corbusier
- (D) Frank Lloyd Wright

63. Which is India's first *Platinum-rated* green building?

- (A) ITC Green Centre, Gurgaon
- (B) Suzlon earth, Pune
- (C) Wipro Technologies, Gurgaon
- (D) CII – Sohrabji Green Business Centre, Hyderabad

64. A rectangular residential plot of 20-meter frontage and 25-meter depth is governed by development control of FAR 2.0 and if four stories of equal area can be constructed what is the ground coverage in sq. m?

- (A) 100
- (B) 150

(C)50

(D)250

65. Sector Model is given by?

(A) Harris and Ullman

(B) Earnest Watson Burgees

(C) Homer Hoyt

(D) Le Corbusier

66. Which temple is well known for their Nagara style with erotic figures and sculptures?

(A) Aksardham

(B)Khajuraho

(C)Hampi

(D)Ajanta

67.The point of contra flexure is the point where?

(A) Bending Moment changes sign

(B) Bending Moment is maximum

(C) Bending Moment is minimum

(D) Shear Force is zero

68.Bishnupur is famous what kind of material use in its temple structures?

(A) Marble

(B) Granite

(C) Brick

(D) Terracotta

69. Council of Architecture (CoA) is which type of body?

- (A) Mandatory
- (B) Statutory
- (C) Society
- (D) Professional

70. Urban Imageability theory is proposed by

- (A) Kevin Lynch
- (B) Edward T Hall
- (C) Oscar Newman
- (D) Gordon Collen

71. Which scale is used to measure magnitude of earthquake?

- (A) Richter scale
- (B) MMS
- (C) MKS
- (D) European Macro seismic scale

72. National Green building rating system in India is?

- (A) BREEAM
- (B) Label 3
- (C) LEED
- (D) GRIHA

73. What is Aquiclude?

- (A) Confined bed of impervious material between aquifers
- (B) Perched aquifer

- (C) Artesian aquifer
- (D) Large water body underground

74. Which of the following is biotic component of the ecosystem

- (A) Temperature
- (B) Humidity
- (C) Fungi
- (D) Solar light

75. What is the term used for an imaginary line on the ground joining points of equal elevation?

- (A) Level line
- (B) Line of sight
- (C) Datum
- (D) Contour

76. In survey, which the simplest instrument used for setting right angles?

- (A) Cross staff
- (B) Chain
- (C) Prism square
- (D) Site square

77. What is the full form of INTACH?

- (A) International Trust for Art and Cultural Heritage.
- (B) Intra-national Trust for Art and Cultural Heritage.
- (C) Integrated Trust for Art and Cultural Heritage.
- (D) Indian National Trust for Art and Cultural Heritage.

78. Considering the population pyramid, the vertical axis is used to represent the

- (A) Age-groups of population
- (B) Total number of population
- (C) Male population
- (D) Female population

79. Command used for converting 2D planes to 3D in AutoCAD is

- (A) Extrude
- (B) Render
- (C) SP line
- (D) Subtract

80. Reverberation time can be calculated by:

- (A) $Rt=0.18v/A$
- (B) $Rt=0.16V/a$
- (C) $Rt= 0.16v/A$
- (D) $Rt=0.19v/A$

Part II

81. "When she fell down the _____, she received many _____ but little help." The words that best fill the blanks in the above sentence are

- (A) stairs, stares
- (B) stairs, stairs
- (C) stares, stairs
- (D) stares, stares

82. Which of the following book is authored by MaulanaAbulKalam Azad?

- (A) Discovery of India
- (B) India Wins Freedom
- (C) The Story of My Experiments with Truth
- (D) Ideas of a Nation

83. The Great Tohuku Disaster in March 2011 off the Pacific Coast of Japan was caused by:

- (A) Accidental nuclear explosion
- (B) Tornado
- (C) Earthquake under the sea
- (D) Cyclone

84. President of the United States of America (USA) holds office for a period of?

- (A) six years
- (B) five years
- (C) four years
- (D) three years

85. Archimedes' Principle can be used in?

- (A) Calculating the volume of an object that does not have a regular shape
- (B) Generating electricity from thermal power plants
- (C) Finding velocity of light
- (D) Explaining chemical reactions

86. Developing scientific temper is enshrined in the Constitution of India:

- (A) As a fundamental right
- (B) As a directive principle of state

- (C) As a fundamental duty
- (D) As a human right

87. Which fuel was used in first stage of satellite launch vehicles (SLVs) in India?

- (A) CNG
- (B) Refined petrol
- (C) Aviation fuel
- (D) Solid fuels

88. Which of the following classical dance forms is most popular in Kerala?

- (A) Kathak
- (B) Bharat Natyam
- (C) Kathakali
- (D) Odissi

89. If NOIDA is written as OPJEB, then what will be the code for DELHI?

- (A) EFMAK
- (B) EFAMK
- (C) EFMIJ
- (D) EFMIK

90. An airplane covers a certain distance at a speed of 240 km/h in 3 hours. To cover the same distance in 1 hour, what must be speed of the airplane?

- (A) 300 km/h
- (B) 360 km/h
- (C) 600 km/h
- (D) 720 km/h

91. Which among the following compound is used in hand sanitizers

- (A) Ethanol
- (B) Ketone
- (C) Ester
- (D) Aldehyde

92. The Kyoto Protocol of 2003 addressed the issue of?

- (A) Greenhouse gases
- (B) Wet lands
- (C) Bio-hazard
- (D) Bio-diversity

93. Which among the following is a synonym of educe

- (A) Extract
- (B) Distract
- (C) Enlarge
- (D) Extend

94. . Choose the odd pair.

- (A) Length: Meter
- (B) Time: Second
- (C) Mass: Ampere
- (D) Temperature: Kelvin

95. Which number replaces the question mark?

4	1	5
7	2	9
1	7	?

- (A) 6
- (B) 5
- (C) 8
- (D) 2

96. Choose the correctly spelt word

- (A) Stretcher
- (B) Strecher
- (C) Straightcher
- (D) Strature

97. Which of the following is the closest antonym for the word 'Transmit'?

- (A) Reply
- (B) Retort
- (C) Withhold
- (D) Show

98. Which of the following is the synonym for the word 'Genesis'?

- (A) Beginning
- (B) Style
- (C) Movement
- (D) Relevant

99. Which number should come next in the series 1, 2, 3, 10, _____

(A) 79

(B) 99

(C) 89

(D) 98

100. Statement 1: John runs faster than George

Statement 2: Tom runs faster than John

Statement 3: George runs faster than Tom

If statement 1 and statement 2 are true, statement 3 will be -

(A) true

(B) false

(C) uncertain

(D) None of the above