

PUNJAB PUBLIC SERVICE COMMISSION

**Competitive Examination (September-2016) for Recruitment of Assistant Architect
in the Department of Public Works (Architecture Wing), Govt. of Punjab**

READ INSTRUCTIONS BEFORE FILLING ANY DETAILS OR ATTEMPTING TO ANSWER THE QUESTIONS.

Candidate's Name _____

Father's Name _____

Date of Birth

DD MM YYYY

Category Code*

(*as given in the admit card)

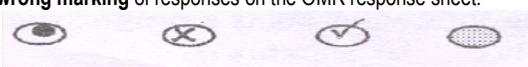
OMR Response Sheet No. _____

Roll No. _____

Booklet No.

Candidate's Signature (Please sign in the box)

INSTRUCTIONS

<p>1. The candidate shall NOT open this booklet till the time told to do so by the Invigilation Staff. However, in the meantime, the candidate can read these instructions carefully and subsequently fill the appropriate columns given above in CAPITAL letters. The candidate may also fill the relevant columns (other than the columns related to marking responses to the questions) of the Optical Mark Reader(OMR) response sheet, supplied separately</p>	<p>9. The candidates shall be responsible to ensure that the responses are marked in correct manner and any adverse impact due to wrong marking of responses would be the responsibility of the respective candidate. The following are some of the examples of wrong marking of responses on the OMR response sheet.</p> 
<p>2. Use only blue or black ball point pen to fill the relevant columns on this page. Use of fountain pen may leave smudges which may make the information given by the candidate illegible.</p> <p>3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible.</p>	<p>10. The candidates, when allowed to open the question paper booklet, are advised to check the booklet to confirm that the booklet has complete number of pages, the pages are printed correctly and there are no blank pages. In case there is any such error in the question paper booklet the candidate should immediately bring this fact to the notice of the invigilation Staff and obtain a booklet of the same series.</p>
<p>4. The candidate must fill all the columns given above on this page and sign at the appropriate place.</p> <p>5. Each candidate is required to attempt 100 questions in 120 minutes, except for visually impaired candidates, who would be given 40 minutes extra, by marking correct responses on the OMR sheet which would be supplied separately to the candidates</p>	<p>11. The serial number of the new booklet should be entered in the relevant column of the OMR. The candidate should request the Invigilation Staff to authenticate the change in serial number of question booklet by obtaining the initials of the Staff on the corrected serial number of the question booklet</p>
<p>6. The candidate must write the following on the OMRs sheet: (a)Serial number of OMR sheet supplied to him/her for marking the responses to the questions. (b)Serial number of the question booklet Failure to do so may lead to cancellation of candidature or any other action which the Commission may deem fit.</p>	<p>12. The question paper booklet has 14 pages.</p> <p>13. Each question carries three marks.</p>
<p>7. The candidate should darken the most appropriate response to the question by completely darkening the relevant circle/oval according to his/her choice of response i.e. a, b, c or d in the manner shown in the example below.</p> <p style="text-align: center;">a b c d</p> <p style="text-align: center;">○ ● ○ ○</p>	<p>14. There are four options for each question and the candidate has to mark the most appropriate answer on the OMR response sheet using blue or black ball point pen.</p>
<p>8. Partly darkening the circle/oval on the OMR response sheet or using other symbols such as tick mark or cross would not result in evaluation of the response as the OMR scanner can only interpret the answers by reading the darkened responses in the manner explained in preceding paragraph. Darkening more than one circle/oval as response to a question shall also be considered as wrong answer.</p>	<p>15. There is no negative marking for wrong answers or questions not attempted by the candidate.</p>

1. A low value of 'U' in glass indicates:
 - a) Bad Thermal performance of the Building envelope
 - b) Heat loss from any building component
 - c) Good insulation of the Building envelope
 - d) Heat absorption by the Building envelope

2. The art of building rests on three foundations of Utilitas, Firmatas and venustas- was given by:
 - a) Marcus Vitruvius
 - b) Le-Corbusier
 - c) Ebenezer Howard
 - d) FL Wright

3. Normally, the angle of roof truss, with asbestos sheet should not be less than:
 - a) 26.5°
 - b) 30°
 - c) 35°
 - d) 45°

4. The water content of soil which represents the boundary between plastic state and liquid state is:
 - a) Liquid limit
 - b) Plastic limit
 - c) Shrinkage limit
 - d) Plasticity index

5. An approach which draws upon multiple theories, styles or ideas is:
 - a) Classicism
 - b) Realism
 - c) Eclecticism
 - d) Romanticism

6. Art Nouveau style is characterized by:
 - a) Geometrical motifs
 - b) Artistic and undulating motifs
 - c) Organization of the planes
 - d) Dominance of Technology

7. The grey colour of ordinary cement is due to the presence of:
 - a) Iron oxide
 - b) Silica grains
 - c) Excess Alumina
 - d) Magnesium dioxide

8. Organisations namely ISOLA, IFLA and ASLA are associated with:
 - a) Environmental Planning
 - b) Landscape Architecture
 - c) Modular Coordination
 - d) Urban Design

9. Parliament Library Building, New Delhi is designed by:
- Raj Rewal
 - Herbert Baker
 - B V Doshi
 - Louis Kahn
10. Angles measured clockwise from any meridian, usually north is called:
- Altitude
 - Azimuth
 - Latitude
 - Meridian angle
11. The first Planner who developed the Gridiron Plan was:
- Marcus Vitruvius Pollo
 - Hipodamus of Miletus
 - Mesopotamians
 - Daniel Burnham
12. Basalt which is used as a building material in Building belongs to the category of:
- Sedimentary Rocks
 - Dolomite
 - Metamorphic Rocks
 - Igneous Rocks
13. ISKON Temple, New Delhi was designed by:
- Raj Rewal
 - Achyut Kanvinde
 - B V Joshi
 - Anant Raje
14. Herringbone pattern is used for:
- Wall construction
 - Speed reducing element
 - Street pavements
 - Making furniture patterns
15. Hajj terminal, Jeddah Airport in Saudi Arabia is a:
- Shell Structure
 - Prefab structure
 - Pneumatic structure
 - Tensile Structure
16. A 'Culdesac' is a street where:
- Only two wheelers are permitted
 - Thorough Traffic is discouraged
 - Only pedestrians are allowed
 - Vehicles are permitted to move in one direction only

17. A general term for any vertical line of soil, waste and vent pipe:
- Branch
 - Stack
 - House Drain
 - Vent Pipe
18. The depression on the top face of a brick made with the object of forming a key for the mortar:
- Bat
 - Closer
 - Frog
 - Quoins
19. Rajiv Awas Yojana Ministry of Housing, Government of India addresses housing for:
- Middle Income Group
 - High Income Group
 - Low Income Group
 - Slum Dwellers
20. The triangular space formed by two consecutive arches is:
- Tympanum
 - Spandrel
 - Regula
 - Extrados
21. In Urban Planning, COHORT refers to:
- Contour levels in slope analysis
 - Age and sex classification of population
 - Land use classification of public and semi-public spaces
 - Soil layer classification
22. Purity of colour is described by:
- Hue
 - Value
 - Chroma
 - None of the above
23. A slab supported on all its edges with ratio of longer side to shorter side greater or equal to 2.0 is designed as:
- One way slab
 - Two way slab
 - Flat slab
 - Coffered Slab
24. Entablature consists of:
- Architrave, Tenia, Cornice
 - Architrave, Frieze, Cornice
 - Cornice, Guttae, Tympanum
 - Frieze, Cornice, triglyphs

25. Town planned for 'Motor Age' refers to:
- Toronto, Ontario
 - Nassan Shores, Long Island
 - Radburn, New Jersey
 - Green Belt, Maryland
26. The minimum road curb length required for parking 10 cars perpendicular to the road is:
- 15m
 - 25m
 - 35m
 - 40m
27. Which of the following generates heat island?
- Urban areas
 - Coastal areas
 - Wetlands
 - Forest areas
28. Transfer of Development Right (TDR) is a tool used for:
- Human development
 - Land development
 - Economic development
 - Infrastructure development
29. Maximum horizontal angle from the speaker in a seating area of a lecture theatre should be:
- 70°
 - 90°
 - 120°
 - 140°
30. Match the eminent personalities in Group I with their books and statements in Group II

Group I	Group II
P. Kevin Lynch Q. Ayn Rand R. Paul D. Spreiregen S. E. F. Schumacher	1. The Fountainhead 2. Small is Beautiful 3. Site Planning 4. Urban Design: Architecture of Towns and Cities 5. Design of Cities

- P-4, Q-2, R-5, S-3
- P-3, Q-1, R-2, S-5
- P-5, Q-1, R-4, S-2
- P-3, Q-1, R-4, S-2

31. Match the urban forms listed in Group I with the towns listed in Group II

Group I	Group II
P. Grid Iron	1. New Delhi
Q. Radial	2. Washington D.C.
R. Linear	3. Copenhagen
S. Finger plan	4. Mumbai
	5. Canberra

- a) P-2, Q-1, R-4, S-3
- b) P-3, Q-1, R-2, S-5
- c) P-3, Q-1, R-4, S-2
- d) P-2, Q-1, R-4, S-5

32. Distribution of shear intensity over a rectangular section of a beam, follows:

- a) Parabolic shape
- b) Straight line
- c) Elliptical shape
- d) None of the above

33. In water logged area, by draining the soil, bearing capacity of the soil:

- a) Decreases
- b) Increases
- c) Remains unchanged
- d) None of the above

34. The foundation in which a beam is provided to join two footings is known as:

- a) Strip footing
- b) Strap footing
- c) Combined footing
- d) Raft footing

35. "Usonian" houses were designed by:

- a) Mies van der Rohe
- b) Alvar Alto
- c) Frank Lyod Wright
- d) Le Corbusier

36. Which among the following is not an Aga Khan Award recipient?

- a) Vidhan Bhawan, Bhopal
- b) Petronas Tower, Kuala Lumpur
- c) SOS Children's Village, Jordan
- d) Museum of Islamic Arts, Doha

37. In a singly reinforced beam, if the permissible stress in the steel reaches earlier than that of the concrete, the beam section is called:

- a) Under reinforced section
- b) Over reinforced section
- c) Balanced section
- d) Critical section

38. Side face reinforcement is provided when the depth of the beam exceeds:
- a) 250 mm
 - b) 345 mm
 - c) 750 mm
 - d) 550 mm
39. The form work from the underside of slabs having span upto 3 meter, can be removed only after:
- a) 1 day
 - b) 4 days
 - c) 7 days
 - d) 14 days
40. Arches in the form of masonry arcs struck from more than four centres, are called:
- a) Two curved arches
 - b) Gothic arches
 - c) Ogee arches
 - d) Drop gothic arches
41. Colour harmony that is equidistant to each other on the colour wheel:
- a) Analogous
 - b) Complementary
 - c) Split Complementary
 - d) Triad
42. A relatively dark value of colour, produced by adding black to it:
- a) Tint
 - b) Tone
 - c) Shade
 - d) Gray
43. One of the Principles of Composition which is also known as "Formal Architecture":
- a) Scale
 - b) Balance
 - c) Proportion
 - d) Unity
44. 'Rose Window' is an iconic feature of:
- a) Notre Dame, Paris
 - b) Hagia Sophia, Istanbul
 - c) St. Peter's, Rome
 - d) Victoria Memorial, Kolkata
45. Busway, Busduct and Raceway are components of:
- a) Security systems
 - b) Air conditioning systems
 - c) Electrical systems
 - d) Water supply systems

46. The difference between Wet Bulb Temperature and Dry Bulb Temperature is called:
- Dry bulb depression
 - Wet bulb depression
 - Variable depression
 - Atmospheric depression
47. In India, one of the Slum Improvement initiatives is:
- Special Residential Zone
 - Valmiki Ambedkar Malin Basti Awas Yojana
 - Indira Awas Yojana
 - Eco Housing
48. Suspended Floors is a structural system used in:
- Lloyds Building, London
 - Jin Mao Building, Shanghai
 - Petronas Tower, Kualalampur
 - Hongkong Shanghai Bank, Hongkong
49. A room measuring 5 m x 3.5 m enclosed by brick wall has a ceiling at 3m height. The room has a door and a window opening of 1 m x 2 m and 1m x 1 m respectively. The quantity of plastering required for interior walls (in sqm) is:
- 46.5
 - 48
 - 51
 - 68.5
50. Identify the CORRECT statement:
- Guggenheim, Bilbao is an example of Deconstructivism
 - Silver Abstraction is a term used for metal clad modern low rise buildings
 - Spiral Building in Tokyo has a straight built form
 - Free Building plan form is a concept given by FLW
51. 'Agora' was provided in Greek towns as a place of:
- Worship
 - Drama
 - Sports
 - Meeting
52. Contour line is:
- An imaginary line connecting points of equal elevation on ground
 - The line identifying the edges of the highway
 - The lines identifying the edges of rivers and lakes
 - An imaginary line connecting the ridges and hill tops
53. The famous Sun Temple at Konark is an example of:
- Buddhist Temple
 - Orissan Temple
 - Jain Temple
 - Dravidian Temple

54. The World famous hanging gardens were built on:

- a) Flood Plains of Tigris
- b) Flood Plains of Euphrates
- c) The slopes of Median hills
- d) The coast line of Persian gulf

55. Architectural Projects designed by Laurie Baker are generally characterized by:

- a) Appropriate Technology
- b) Human scale
- c) Use of Shell Structure
- d) Use of locally available materials

56. The project HABITAT 67, Montreal, designed by Moshie Safdie is an example of:

- a) High rise apartments
- b) Low rise detached dwellings
- c) Organic architecture
- d) Prefabricated housing

57. Huge monoliths square on plan and tapering at the summit, erected in the Egyptian Architecture are known as:

- a) Pyramid
- b) Sarcophagus
- c) Obelisk
- d) Sphinx

58. Match the building construction components in Group I with their application areas in Group II

Group I	Group II
P. Bracket Plate	1. Steel Column
Q. Kick Plate	2. Curtain Wall
R. Pressure Plate	3. Rolling Shutter
S. Base Plate	4. Stone Wall
	5. Toilet Door

- a) P-2, Q-3, R-4, S-1
- b) P-2, Q-5, R-1, S-4
- c) P-2, Q-5, R-3, S-5
- d) P-3, Q-5, R-2, S-1

59. Match the historical building in Group I with their styles in Group II

Group I	Group II
P. Pantheon, Rome	1. Baroque
Q. St. Paul's Cathedral, London	2. Roman
R. St. Peter's Basilica, Rome	3. Romanesque
S. Notre Dame, Paris	4. Renaissance
	5. Gothic

- a) P-3, Q-2, R-1, S-4
- b) P-2, Q-5, R-3, S-1
- c) P-2, Q-1, R-4, S-5
- d) P-3, Q-4, R-2, S-1

60. Match the terms in Group I with their descriptions in Group II

Group I	Group II
P. Quoin	1. Geometric representation of the universe
Q. Stucco	2. Small dome
R. Mandala	3. Triangular form above an opening
S. Cupola	4. Corner stone at the angle of buildings
	5. Plaster

- a) P-4, Q-3, R-2, S-1
- b) P-3, Q-5, R-1, S-4
- c) P-4, Q-5, R-1, S-2
- d) P-3, Q-1, R-5, S-4

61. The partial factor of safety for concrete as per IS: 456-2000 is:

- a) 1.5
- b) 1.15
- c) 0.87
- d) 0.446

62. The maximum area of tension reinforcement in beams shall not exceed:

- a) 2% of total cross sectional area
- b) 4% of total cross sectional area
- c) 3% of total cross sectional area
- d) 6% of total cross sectional area

63. Early Aryan Civilization is characterized by:

- a) Introduction of arches and domes
- b) Wooden construction
- c) Rock cut Architecture
- d) Flat brick masonry

64. In a pitched truss the two vertical web members set at equal distances from the apex are called:

- a) Joggle post
- b) Queen post
- c) King post
- d) Jack post

65. The advantage of reinforced concrete, is due to:

- a) Monolithic character
- b) Fire-resisting and durability
- c) Moulding in any desired shape
- d) All of the above

66. The shear reinforcement in R.C.C. is provided to resist:

- a) Vertical shear
- b) Horizontal shear
- c) Diagonal compression
- d) Diagonal tension

67. To ensure uniform pressure distribution, the thickness of the foundation, is:
- Kept uniform throughout
 - Increased gradually towards the edge
 - Decreased gradually towards the edge
 - Kept zero at the edge
68. In a singly reinforced beam, the effective depth is measured from its compression edge to:
- Tensile edge
 - Tensile reinforcement
 - Neutral axis of the beam
 - Longitudinal central axis
69. The portion of a brick cut across the width, is called:
- Closer
 - Half brick
 - Bat
 - Bed
70. The exterior angle between outer face of walls, is known as:
- Quion
 - Junction
 - Turn
 - All of the above
71. In case of multi-storied buildings, the form work to be removed first:
- Sides of beams and girders
 - Slabs
 - Bottom of beams and girders
 - All the above at the same time
72. The cubical contents of a cement bag of 50.0 kg is generally:
- 0.25 cu m
 - 0.034 cu m
 - 0.043 cu m
 - 0.05 cu m
73. The figurehead style of Antonio Gaudi's work is known as:
- Catalan Modernism
 - Gothic
 - Renaissance
 - Neo-Classicism
74. Which Plan form is the NOT suitable for the building located in the Earthquake zone?
- Rectangular
 - L Shaped
 - Circular
 - Square

75. Bahai Temple in Delhi is a:
- a) Shell structure
 - b) Tent structure
 - c) Pneumatic structure
 - d) Tensile structure
76. Emergency power is required to operate all of the following EXCEPT:
- a) Fire and booster pumps
 - b) Alarm, communication and stair pressurization systems
 - c) Three elevators at one time
 - d) Emergency lights (battery operated)
77. The Empire State Building, Manhattan, New York has how many floors:
- a) 88
 - b) 45
 - c) 178
 - d) 102
78. A site in a map drawn to scale of 1:16000 measures 75 sq cm. The actual area of the site in hectares is:
- a) 120
 - b) 192
 - c) 162
 - d) 256
79. The unending sequence of numbers where the first two numbers are 1 and 1 each succeeding term is the sum of the 2 immediately preceding:
- a) Fibonacci series
 - b) Harmonic progression
 - c) Harmonic series
 - d) Geometric progression
80. The literal meaning of Feng Shui is:
- a) House and Household
 - b) Wind and water
 - c) Efficiency of Design
 - d) Sensitivity towards Design
81. The Neo-classical movement in the 18th century began as a reaction against:
- a) Baroque style
 - b) Renaissance style
 - c) Gothic style
 - d) Romanesque style
82. The essential components of Orissan Temple are:
- a) Ratha, Vimana, Harmika
 - b) Kalasa, Pida, Bada
 - c) Torana, Stupa, pida
 - d) Vedika, Pradakshina, Harmika

83. Match the following Architectural styles:

P. Greek	1. Hypostyle Hall
Q. Roman	2. Chaitya Hall
R. Buddhist	3. Parthenon
S. Egyptian	4. Triumphal Arch

- a) P-4, Q-1, R-3, S-2
- b) P-4, Q-3, R-1, S-2
- c) P-3, Q-4, R-2, S-1
- d) P-1, Q-4, R-2, S-3

84. The term coined by Paolo Soleri that combines ecology with Architecture and deals with habitats maintaining as extremely high population density is:

- a) Archaeology
- b) Proxemics
- c) Arcology
- d) Utopia

85. GRIHA is a rating for Green Building given by:

- a) Development Alternatives
- b) The Energy and Research Institute
- c) Bureau of Energy Efficiency
- d) Ministry of Power

86. ECBC stands for:

- a) Electrical Conduit in Building Construction
- b) Energy Conservation Building code
- c) Electrical Credit in Building Code
- d) Energy Credit in Building Construction

87. "Villa Savoye", Paris is an example of:

- a) Modernism
- b) Post Modernism
- c) Deconstructivism
- d) Eclecticism

88. The term "Zeitgeist", used in contemporary architecture, refers to:

- a) Iconicity
- b) Spirit of Times
- c) Kinesthetics
- d) Semantic associations

89. In case of residential apartments, the effective floor area available for use within an apartment, is known as:

- a) Carpet Area
- b) Built-up Area
- c) Plinth Area
- d) Super Built-up Area

90. Beam or lowest division of the entablature which extends from column to column, is known as:

- a) Arabesque
- b) Arcade
- c) Architrave
- d) Arbour

91. Travel behaviour characteristics of an urban area can be derived from:

- a) Parking Survey
- b) Demographic Survey
- c) Socio Economic Survey
- d) Origin & Destination Survey

92. Match the projects in Group I with their architects in Group II

Group I	Group II
P. Milwaukee Art Museum, Wisconsin	1. Bernard Tschumi
Q. Kimbell Art Museum, Fortworth	2. Richard Meier
R. Getty Centre, Los Angeles	3. Daniel Libeskind
S. Freedom Tower, New York	4. Louis Kahn
	5. Santiago Calatrava

- a) P-5, Q-4, R-2, S-3
- b) P-5, Q-1, R-2, S-4
- c) P-2, Q-1, R-4, S-3
- d) P-2, Q-5, R-4, S-3

93. Match the terms in Group I with their meaning in Group II

Group I	Group II
P. Mimbar	1. Pillared assembly hall
Q. Qibla	2. Covered passage around central court
R. Liwan	3. Pulpit
S. Baradari	4. Parapet between wall openings
	5. Direction of Mecca

- a) P-5, Q-1, R-4, S-2
- b) P-3, Q-5, R-1, S-2
- c) P-2, Q-3, R-4, S-5
- d) P-4, Q-5, R-2, S-1

94. Match the locations in Group I with the corresponding traps in Group II

Group I	Group II
P. Inspection chamber	1. N-Trap
Q. Wash basin	2. Gully Trap
R. Bathing space	3. S-Trap
S. European water closet	4. Bottle Trap
	5. Floor Trap

- a) P-2, Q-1, R-4, S-2
- b) P-4, Q-5, R-2, S-3
- c) P-2, Q-4, R-5, S-3
- d) P-2, Q-3, R-4, S-1

95. The member which is placed horizontally on rafter to support roof covering is called as:
- a) Purlin
 - b) Cleat
 - c) Batten
 - d) Strut
96. While designing a stair, the product of rise and going is approximately kept equal to:
- a) 350
 - b) 420
 - c) 450
 - d) 500
97. The function of cleats in a roof truss:
- a) To support the common rafter
 - b) To support purlins
 - c) To prevent the purlins from tilting
 - d) All of the above
98. As per National Building code 2005, the minimum size of a habitable room in m² is:
- a) 9.5
 - b) 10.5
 - c) 8.0
 - d) 12.5
99. 'Urushringa' is the design component used for one of the following temples:
- a) Buddhist temple
 - b) Khajuraho
 - c) Dravidian
 - d) Deccan
100. V7 concept given by Le Corbusier refers to:
- a) Neighbourhood Planning
 - b) Housing Typologies
 - c) Architecture Design Principle
 - d) Hierarchy of Roads
