

CODE: AE-ARC

M.Tech. Common Entrance Test, PG CET – 2010

## ARCHITECTURE

Time: 2 Hours

Max. Marks: 100

### Read the following instructions before answering the test

- i) Write / darken the particulars of your identity, Test Seat Number and affix your signature on the OMR Response Sheet before the start of the test.
- ii) All Questions have multiple choices of answers, of which only one is correct.
- iii) Mark the correct answer by completely darkening only one oval against the Question number using Black Ink Ball Point pen only.
- iv) There will be no negative evaluation with regard to wrong answers. Marks will not be awarded if multiple answers are given.
- v) Do not make any stray mark on the OMR Response sheet. For rough work, use blank page on the question paper.
- vi) Taking the question paper out of the test hall is permitted only after the full duration of the test.
- vii) Use of only non-programmable calculator is permitted.
- viii) **START ANSWERING ONLY AT THE SPECIFIED TIME WHEN THE INVIGILATOR GIVES INSTRUCTIONS.**

### MARKS DISTRIBUTION

PART – I	50 Questions :	50 x 1 =	50 Marks
PART – II	25 Questions :	25 x 2 =	50 Marks
		Total =	100 Marks

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## PART – I

*Each question carries one mark.*

- The following four architects belonged to Baroque period.
  - Borromini, Guarini, Maderno and Bernini.
  - Michelangelo, Guarini, Maderno and Bernini.
  - Bramante, Michelangelo, Alberti and Palladio.
  - Michelangelo, Maderno, Bernini and Brunelleschi.
- The four primordial motives for architecture viz. walling, hearth gathering, terracing and structural framework were the ideas of
  - John Ruskin
  - Gottfried Semper
  - Calude Perrault
  - de Quincy
- The architecture of the following architect can be labeled as 'High Tech'.
  - Zaha Hadid
  - Robert Sterne
  - Charles Moore
  - Norman Foster
- Eros Theatre, Bombay designed by Bhedwar and Sorabji Architects is a good example for
  - Arts & Crafts Movement in India
  - Greek Revival in India
  - Art Deco in India
  - Revivalist style
- Kailasanatha temple at Kancheepuram is noted for the origins of
  - Thousand pillared mandapa
  - Dravidian prakara
  - Dravidian vimana
  - Dravidian gopuram
- The author of the book Design of Cities is
  - Fredric Gibbard
  - Edmund Bacon
  - Ebenezer Howard
  - Kevin Lynch
- Urban Design theory that deals with analysis of relationship between building mass and open space is
  - figure-ground theory
  - open space theory
  - courtyard theory
  - grain theory
- Area of homogeneous character recognized by clues refers to
  - Landmark
  - Node
  - District
  - Edge
- 'Critical architecture of negation' – this refers to the works of
  - Zaha Hadid
  - James Stirling
  - Quinlan Terry
  - Peter Eisenman
- 'While discussing architectural matters, we rarely achieve anything but a quarrel about what I like and what you like' – This statement is made by
  - Christian Norberg Schulz
  - Christopher Alexander
  - Amos Rapoport
  - Geoffrey Broadbent
- Moss, manicured trees, rocks, water – these elements are present in a
  - Moghul garden
  - Chinese garden
  - Italian garden
  - Japanese garden
- Building skeleton and skin are the hallmarks of
  - Gothic style
  - Greek style
  - Roman style
  - Romanesque style
- The botanical name of 'Neem' tree used for roadside landscaping is
  - Largerstroenia Speciosa
  - Ficus benghalensis
  - Azadirachta Indica
  - Kleenhama hospita
- According to Geoffrey Broadbent, designing with the help of proportional systems is called
  - iconic design
  - pragmatic design
  - canonic design
  - analogic design

4. Hector Guimard was associated with
- Arts and Crafts Movement
  - Art Nouveau Movement
  - Italian Futurism
  - De Stijl Movement
5. Piano nobile of the Italian palazzo refers to the
- second floor
  - third floor
  - ground floor
  - first floor (above the ground floor)
6. The concept of bio-climatic skyscraper is associated with
- William Lim
  - Ken Yeang
  - Mario Botta
  - Channa Daswate
7. The ideologies of architects, according to Jon Lang, fall under
- normative theory
  - positive theory
  - scientific theory
  - explanatory theory
8. Golden section refers to the division of a line into two parts a and b such that
- $b/a = b^2/a^2$
  - $b-a/b+a = a/b$
  - $a/b = b/a+b$
  - $b+a/b-a = ab$
9. Corbuiser chose to propound FIVE points of architecture in reference to
- FIVE fingers of hand
  - FIVE orders of architecture
  - FIVE elements of nature
  - FIVE proportions
10. 'Layering of facades' and 'Sense of Centre' are the basic tenets of
- B.V. Doshi
  - Charles Correa
  - Anant Raje
  - Achyut Kanvinde
11. If the height of a building is h and distance of viewing is d, then distance – relation ratio is h:d. If h:d is 1:3, we
- tend to see object as edge
  - tend to notice details more than the façade
  - tend to see object as whole together with details
  - tend to see the building in relation to surrounding objects
12. Compared to the Greek agora, the Roman Forum was more
- symmetrical
  - scattered
  - structured
  - open
13. As the population size of cities increases, the percentage of area under residential use usually
- increases
  - decreases
  - remains the same
  - increases marginally
14. If the age-sex pyramid of a settlement is broad at the base and narrow at the middle and top, it indicates that the
- settlement has employment opportunity
  - settlement's population is aging
  - settlement has young population
  - settlement has poor employment opportunity
15. Innovative construction methods to save cost and new vocabulary in indigenous construction were the hall marks of the following architect's works.
- Laurie Baker
  - Anant Raje
  - Achyut Kanvinde
  - Satish Grover
16. The following is not an example for primate city
- Bangalore in Karnataka
  - Mumbai in Maharashtra
  - Chennai in Tamil Nadu
  - Thiruvananthapuram in Kerala
17. Ravindra Bhan is a noted
- housing expert
  - landscape architect
  - urban designer
  - interior designer

29. The concept of folk, work and place was propounded by  
 a) Ebenezer Howard      b) Lewis Mumford      c) Patrick Geddes      d) Lewis Keeble
30. In the Indian context, for a neighbourhood of 20,000 population, the following facilities are to be provided  
 a) high school, playfield and civic centre      b) high school, civic centre and stadium  
 c) high school, playfield and stadium      d) high school, playfield and shopping centre
31. For post disaster homeless families, the appropriate type of housing is  
 a) high density, high rise      b) high density, low rise  
 c) prefab, potable housing      d) sites and services scheme
32. The most decorative among the five orders of architecture is  
 a) Composite      b) Corinthian      c) Ionic      d) Tuscan
33. The colour code for public utility in a land use map is  
 a) Yellow      b) Blue      c) Red      d) Brown
34. 'Emerald Necklace' is well known as  
 a) Ornamental garden in Italy      b) street lighting in marine drive in Mumbai  
 c) parkway in Boston      d) large public park in New York
35. Technopolis means  
 a) Ten million size city      b) Dynapolis  
 c) Settlement designed by high technology      d) urban conurbation
36. The city of Brazilia was designed by  
 a) Oscar Neimeyer      b) Le Corbusier      c) Ebenezer Howard      d) Lucio Costa
37. Japanese gardens have  
 a) dry gardens and stroll gardens      b) water gardens and fountains  
 c) statuary and rocks      d) pathways and fountains
38. The curved arris formed by the intersection of vaults is  
 a) glyph      b) groin      c) frieze      d) impost
39. Solid masonry which resists the lateral pressure of an arch is called  
 a) abacus      b) alae      c) abutment      d) aisle
40. Which plan form is most suitable for a building located in an earthquake zone?  
 a) Rectangular      b) L shape      c) U shape      d) Square
41. When the picture-plane located between the object and the observer, is moved towards the observer, the size of the perspective view  
 a) decreases      b) increases      c) remains the same      d) is distorted
42. The following are the purposes of the Building Code  
 a) general welfare, aesthetic quality, safety and convenience.  
 b) general welfare, affordability, safety and convenience.  
 c) general welfare, protection of health, safety and convenience.  
 d) general welfare, aesthetic quality, affordability and safety.
43. William Kent is associated with  
 a) Japanese garden      b) English romantic garden  
 c) French Baroque garden      d) Italian garden

A country has the largest city size of 10 million. What will be the population size of its fourth largest city according to the rank size rule?

- a) 2 million                      b) 2 lakhs                      c) 2.5 lakhs                      d) 2.5 million

The following factors are considered for proximity diagramming

- a) scale of different spaces and location of elements  
b) scale of different spaces and topographical conditions.  
c) location of elements and structural system  
d) location of elements and topographical conditions.

The following were landscape architects.

- a) Andre Le Notre, Valladier, Christopher Wren and John Nash  
b) Andre Le Notre, Valladier, John Wood and John Ruskin  
c) Valladier, John Wood, John Nash and John Ruskin  
d) Andre Le Notre, Valladier, John Wood and John Nash

Sensitivity to light and double envelope concept are the hallmarks of the architecture of

- a) Charles Correa                      b) Charles Moore                      c) Louis Kahn                      d) Corbusier

The author of Radburn concept was

- a) Patrick Geddes                      b) Clarence Stein                      c) Walter Gropius                      d) Doxiadis

The Gothic style in Europe prevailed during

- a) 12<sup>th</sup> to 13<sup>th</sup> century                      b) 14<sup>th</sup> to 15<sup>th</sup> century  
c) 13<sup>th</sup> to 14<sup>th</sup> century                      d) 15<sup>th</sup> to 16<sup>th</sup> century

In a settlement system, there is a transfer of the following among settlements.

- a) population, materials and services                      b) population and materials  
c) materials and services                      d) population and services

## PART – II

*Each question carries two marks.*

The authors of the Concepts Rank size rule, Central place theory and Law of the primate city are the following respectively.

- a) Clarence Stein, Walter Christaller and Mark Jefferson  
b) GK Zipf, Walter Christaller and Mark Jefferson  
c) GK Zipf, Mark Jefferson and Ernest Burgess  
d) GK Zipf, Mark Jefferson and Walter Christaller

If the scale of a map is 1:50000, then 1sq.cm. of a map would represent

- a) 25 hectates                      b) 5 hectares                      c) 250 hectares                      d) 50 hectares

Soria Y. Mata and Daniel Burnham are the authors of

- a) Broad acres and City Beautiful Movement  
b) Garden city and Broad acres  
c) Garden city and City Beautiful Movement  
d) Linear city concept and City Beautiful Movement

The examples for the Islamic architecture in India for Imperial style, Provincial style and Mughal style are the following respectively.

- a) Lodhi Tomb Delhi, Gol Gumbad Bijapur and Humayun's Tomb Delhi.  
b) Qutb Minar Delhi, Khriki Masjid Delhi and Humanun's Tomb, Delhi.  
c) Lodhi Tomb Delhi, Gol Gumbad Bijapur and Atala Masjid, Jaunpur.  
d) Jami Masjid Ahmedabad, Gol Gumbad Bijapur and Humayun's Tomb, Delhi.

55. A town of 3,00,000 population in 1981 has exhibited decadal growth rate of 20% and 30% during 1991 and 2001 respectively. Estimate the population in 2011 if the decadal growth rate is 40%.

- a) 6,55,200                      b) 5,55,200                      c) 4,55,200                      d) 3,55,200

56. Match the following architects in group-1 with their works in group-2.

Group-1

- P. Pugin and Barry  
Q. Christopher Wren  
R. Piano and Rogers  
S. Bernard Tschumi

Group – 2

1. Pompidon Centre, Paris  
2. Parc de Vilette, Paris  
3. St Paul's London  
4. Westminster Palace, London

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

57. A community comprising 200 hectares is having 55% of the land put to residential plots and a population of 44,000. Calculate the net residential density.

- a) 44 pph                      b) 4400 pph                      c) 400 pph                      d) 440 pph

58. A sector has a gross area of 150 hectares and a residential area of 120 hectares. If net residential density is 400 pph, what is the gross density of the sector?

- a) 300 pph                      b) 480 pph                      c) 400 pph                      d) 320 pph

59. A plot of land measuring 20x30m has a G+4 storeyed building with uniform floor area. If the land has been utilized to its fullest and FAR is 250%, calculate the permissible ground coverage.

- a) 50%                      b) 75%                      c) 80%                      d) 60%

60. The 'Caryatid' mode of columnar construction is a composition of

- a) linear columns and beam forms of a three dimensional framework in Japanese palaces.  
b) vertical linear elements defining volume of transparent spaces in ancient Turkish domes.  
c) sculptured female figures as columnar supports for entablatures in Greek temples.  
d) basic relationship between structural elements supporting roof and the roofing materials in Gothic churches.

61. Match the concepts in Group-1 with the authors in Group-2.

Group-1

- P. Total Architecture  
Q. Post Modernism  
R. Brutalism  
S. Contemporary Vernacular

Group – 2

1. Charles Jencks  
2. William Lim  
3. Walter Gropius  
4. Corbusier

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

62. Find the correct matches in the given list of architectural entities and the architectural styles / period.

- P. Amphi-theatre  
Q. Basilican church  
R. Pnyx  
S. Rose Window

1. Early Christian  
2. Gothic  
3. Roman  
4. Greek

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

the architects with the buildings designed by them.

- |               |                              |
|---------------|------------------------------|
| Frank Gehry   | 1. Smith House, Connecticut  |
| Richard Meier | 2. Menil Museum              |
| Renzo Piano   | 3. AT&T Building, New York   |
| Norman Foster | 4. Guggenheim Museum, Bilbao |

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

Match the quotations with their authors.

- |                                 |                     |
|---------------------------------|---------------------|
| Architecture is More            | 1. Robert Venturi   |
| Architecture is a Bore          | 2. Mies Vander Rohe |
| Architecture is Circulation     | 3. John Ruskin      |
| Architecture can be made        | 4. Corbusier        |
| Architecture is for good people |                     |

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

Match the meanings of the following architectural terms.

- |            |  |
|------------|--|
| Architrave | 1. A molded band carried around an arch                                  |
| Chimney    | 2. A square beam forming the lowest horizontal component of entablature. |
| Triclinium | 3. Hot room in Roman bath  |
| Peripteral | 4. Classical temple type with a portico at both its front and rear       |

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

Match the names of books with the authors.

- |  |                   |
|--|-------------------|
| Architecture: A New Architecture           | 1. Charles Jencks |
| Language of Post Modern Architecture       | 2. R. Venturi     |
| Complexity & Contradiction in Architecture | 3. K. Frampton    |
| Modern Architecture – A Critical History   | 4. Corbusier      |

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

Match the architects with their buildings.

- |   |                   |
|---|-------------------|
| Chhatrapati Shivaji Maharaj Kala Kendra, Jaipur   | 1. B.V. Doshi     |
| Indira Nagar Community Housing, Indore            | 2. Bimal Patel    |
| Entrepreneurship Development Institute, Ahmedabad | 3. Roger Anger    |
| Shri Ganesha Mandir, Auroville                    | 4. Charles Correa |

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

Match the right kind of statutory provision to enforce integrated urban conservation.

- |   |
|---|
| Urban Conservation Act                          |
| Conservation of Energy Act                      |
| Conservation of Natural Resources Act           |
| Conservation of Ancient Monuments and Sites Act |

Match the architectural theory which undermines conventional notions of harmony, unity and continuity, breaks continuity and disturbs relationship between interior and exterior, is known as

a) postmodernism	b) deconstruction	c) neo-rationalism	d) blob architecture
------------------	-------------------	--------------------	----------------------



70. Match the following:-

<u>Vehicle Type</u>	<u>PCU</u>
P. Car	1. 1.5
Q. 2-Wheeler automobile	2. 1.0
R. Bus	3. 4.0
S. Agriculture tractor / trailer	4. 0.5
	5. 2.2
	6. 0.2

a) P-2, Q-4, R-5, S-3                      b) P-2, Q-4, R-3, S-5  
c) P-4, Q-2, R-3, S-6                      d) P-2, Q-4, R-5, S-1

71. The period between 1870 and 1940 was the era of metropolitan development in the USA. Identify the factor that was NOT responsible for metropolitan development.

- a) the great migration from Europe.
- b) technological advances in highway and high-rise engineering
- c) the process of urban decentralization
- d) the comparative advantages of World Wars and Marshall Plan

72. Identify the criteria that are best suited for building design in hot and dry climate.

- P. high building density
- Q. small courtyards
- R. small openings
- S. large openings
- T. thick walls
- U. thin walls.

- a) Q,R,S,T                      b) P,Q,R,U                      c) P,R,S,T                      d) P,Q,R,T

73. In a residential community of 15000, 30% are Higher Secondary School going children. The expected enrolment is 80% and per capita gross floor space required is 3.0 sqm. The ground coverage permissibility is 40%. Indicate the land area required, for the High School building assuming it is single storeyed and ground coverage permitted is fully utilized.

- a) 1.7 hectare                      b) 2.7 hectares                      c) 0.7 hectare                      d) 27 hectares

74. Match the type of land use with the colour code.

P. Vacant	1. Bluish green
Q. Agricultural	2. Red
R. Transportation	3. Grey
S. Public & Semi-Public	4. White

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

75. A residential area of 80 hectares has the following residential plot sub-division. Each plot has one dwelling unit and the average household size is 5 persons. The rest of the area is devoted to roads, schools, parks and shops.

<u>Plot Size</u>	<u>Numbers</u>
500 sq m	100
300 sq m	500
200 sq m	1000

What are the gross and net density respectively of the area in persons per hectare (ppha)?

- a) 200 ppha and 300 ppha                      b) 500 ppha and 300 ppha  
c) 200 ppha and 100 ppha                      d) 100 ppha and 200 ppha

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