

**MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY,
BATHINDA**

Ph.D. Entrance Examination of Architecture and Planning

Q1. The intensity or purity of the color refers to its _____ .

- a) Hue
- b) Saturation
- c) Luminance
- d) Tone

Q2. Match the architects with the style that they practiced?

Name of Architect		Style	
A	Frank Gehry	I	Hi-Tech Architecture
B	Richard Rogers	II	Brutalism
C	Zaha Hadid	III	Deconstructivism
D	Le Corbusier	IV	Parametric

- a) A-I, B-III, C-II, D-IV
- b) A-III, B-IV, C-II, D-I
- c) A-II, B-IV, C-III, D-I
- d) A-III, B-I, C-IV, D-II

Q3. Which of the following has not designed any Indian city/town?

- a) Otto Koenigsberger
- b) Edwin Lutyens
- c) Le Corbusier
- d) Louis Kahn

Q4. Match the elements in Group I with historical styles in Group II?

Group I		Group II	
A	Urushringa	I	Islamic
B	Vedika and Torana	II	Rajput and Sikh
C	Squinch	III	Hindu
D	Multi-foliated arch	IV	Buddhist

- a) A-I, B-III, C-II, D-IV
- b) A-III, B-IV, C-I, D-II
- c) A-II, B-IV, C-III, D-I
- d) A-III, B-I, C-IV, D-II

Q5. Which of the following is the world's highest railway bridge?

- a) Fengyu Bridge, China
- b) Beipanjiang Bridge Shuibai, China
- c) Chenab Bridge, India
- d) None of the above

Q6. Who is the lead architect for the new Parliament building of New Delhi?

- a) Hiren Patel
- b) Neelkanth Chhaya
- c) Bimal Patel
- d) B.V.Doshi

Q7. Which of the following is a key component of Energy efficient Glazing system in composite climate?

- a) Low SHGC
- b) Unshaded glass
- c) Higher U-Value
- d) Lower R-value

Q8. What will be expected time as per PERT for the data given below:

- (i) Optimistic time - 5 hours
- (ii) Pessimistic time - 12 hours
- (iii) Most likely time - 7 hours

- a) 4.5 hours
- b) 5.5 hours
- c) 6.5 hours
- d) 7.5 hours

Q9. Which of the following is TRUE about Transit Oriented Development (TOD)?

- a) Focus on creating vibrant, sustainable, and well-connected communities around public transportation hubs.
- b) Strategic use and development of land within a predetermined geographic jurisdiction
- c) Division a city or area into discrete zones, each governed by precise and well-defined land-use laws
- d) Specific route within a city or region designated for the operation of public transportation services

Q10. What will be the maximum covered area of a building (on all floors) constructed in a plot of 2.5 Hectares to achieve FAR of 2.0?

- a) 2,500 square metres
- b) 5,000 square metres
- c) 25,000 square metres
- d) 50,000 square metres

Q11. Who is the author of the book "The Death and Life of Great American Cities"?

- a) Lewis Mumford
- b) Robert Venturi
- c) Jane Jacobs
- d) Kevin Lynch

Q12. Who gave the concept of "The Garden City"?

- a) Clarence A. Perry
- b) Patrick Geddes
- c) Sir Ebenezer Howard
- d) Le Corbusier

Q13. A ramp with a slope of 1:10 is to be provided in a car parking space for approach to a basement floor having a level 3 m below road level. One intermediate landing of length 2.5 m is to be provided. The total running length of the ramp including landing, as per the slope shall be _____?

- a) 30 m
- b) 32.5 m
- c) 35 m
- d) None of the above



Q14. The PMAY-Urban is an initiative of which of the following central ministries?

- a) Housing and Urban Affairs
- b) Health and Family Welfare
- c) Tourism
- d) Planning

Q15. When a city experiences much warmer temperatures than nearby rural area, it is called _____ effect?

- a) Urban adaptation
- b) Urban resilience
- c) Urban heat Island
- d) Urban canopy

Q16. A continuous network of urban areas/ regions is called _____.

- a) Conurbation
- b) Necropolis
- c) Ekistics
- d) Ecumenopolis

Q17. Rhododendron species are mainly:

- a) Creepers
- b) Flowering shrubs or small trees
- c) Indoor plants
- d) Grasses

Q18. In M25 Concrete the proportions of cement: sand: aggregate is taken as _____.

- a) 1:1:2
- b) 1:1.5:3
- c) 1:2:4
- d) 1:2:3

Q19. The Architects' Act was enacted in the year _____.

- a) 1965
- b) 1972
- c) 1983
- d) 1991

Q 20. For fire safety, the travel distance should not be more than _____ m from any given point in a building as per National Building Code 2016.

- a) 20
- b) 30
- c) 40
- d) 50

Q 21. The Equivalent Car Space (ECS) is counted as _____ sq. m. for open and Basement parking respectively.

- a) 23, 32
- b) 28, 32
- c) 23, 28
- d) 28, 36



Q 22. What is the Ernest Burgess's theory, that includes the concept of Central Business District (CBD)?

- a) Multiple Nuclei Model
- b) Garden City
- c) Concentric Zone Model
- d) Sector theory

Q 23. Which of the following is NOT a UNESCO World Heritage site in Maharashtra?

- a) Ajanta Caves
- b) Ellora Caves
- c) Elephanta Caves
- d) Bhimbetka Rock Shelters

Q 24. Which organization related to Heritage Protection was formed a year after the adoption of Venice Charter in 1964?

- a) ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property)
- b) International Council of Museums (ICOM)
- c) International Council on Monuments and Sites (ICOMOS)
- d) Aga Khan Trust for Culture (AKTC)

Q 25. Which of the following is NOT a GRIHA five star rated building?

- a) Suzlon - One Earth, Pune
- b) Headquarters Building for Unique Identification Authority of India (UIDAI), New Delhi
- c) Titan new corporate campus, Bangalore
- d) NABARD Regional Office, Kolkata

Q 26. The technique that uses Lasers to create a 3D model or Point cloud is called _____?

- a) LiDAR
- b) BIM
- c) UAVs
- d) GIS

Q 27. The "Golden Ratio" is approximately equal to _____?

- a) 1.414
- b) 1.618
- c) 1.707
- d) 2.0

Q 28. Vernacular architecture primarily focuses on _____?

- a) Local climate and traditional techniques
- b) Modern construction technology
- c) Low-Cost construction techniques
- d) Bionic architecture

Q 29. The softwares, Rhino and Grasshopper in combination are known for:

- a) 2D Drafting
- b) LiDAR survey
- c) Visual algorithmic modeling
- d) GIS analysis

Q 30. The softwares, Lumion or Enscape are primarily used for _____.

- a) Structural detailing
- b) Real-time architectural visualization
- c) Drawing and Drafting
- d) Energy simulation



Q 31. Which of the following is not a non-destructive test for concrete?

- a) Core Cutting Test
- b) Ultrasonic Pulse Velocity (UPV) Test
- c) Rebound Hammer Test
- d) Covermeter Test

Q 32. Ultrasonic tests are used to detect _____.

- a) Surface color defects
- b) Internal voids, cracks, and discontinuities
- c) Deformation
- d) Discolouration

Q 33. Hybrid ventilation in buildings refers to which of the following?

- a) Air sealed, fully conditioned spaces
- b) Combination of natural and mechanical ventilation
- c) Only mechanical ventilation
- d) Passive cooling through glazing

Q 34. In housing planning, the Residential Density term refers to _____.

- a) Number of dwelling units per hectare
- b) Floor area ratio
- c) Number of floors in a building complex
- d) None of the above

Q 35. Which international organization provides global guidelines on sustainable urban housing?

- a) UNESCO
- b) UN-Habitat
- c) WHO
- d) ICOMOS

Q 36. Which foundation type is usually used for multistorey buildings in soft soil?

- a) Isolated footing
- b) Raft foundation
- c) Strip footing
- d) Pile foundation

Q 37. The stack effect in buildings refers to which of the following?

- a) Vertical air movement caused by temperature and pressure differences
- b) Cross ventilation due to placement of windows on opposite sides
- c) Vertical transportation of items in a building
- d) Distribution of Structural load across a tall building

Q 38. Who was the first female Pritzker award winner in 2004?

- a) Kazuyo Sejima
- b) Carme Pigem
- c) Anne Lacaton
- d) Zaha Hadid

Q 39. Which Asian architect designed the "Church of the Light"?

- a) Laurie Baker
- b) Arata Isozaki
- c) Shigeru Ben
- d) Tadao Ando

Q 40. Circular economy principles in architecture are known to promote which of the following?

- a) Reuse of materials repeatedly
- b) Reuse, recycling, and reduction of waste
- c) Procurement of new raw materials at each stage
- d) Linear building processes

ANSWER KEY FOR PH.D. ENTRANCE EXAM
(Architecture and Planning 2025)

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|----------|----------|
| Q.1. b) | Q.21. a) |
| Q.2. d) | Q.22. c) |
| Q.3. d) | Q.23. d) |
| Q.4. b) | Q.24. c) |
| Q.5. e) | Q.25. d) |
| Q.6. c) | Q.26. a) |
| Q.7. a) | Q.27. b) |
| Q.8. d) | Q.28. a) |
| Q.9. a) | Q.29. c) |
| Q.10. d) | Q.30. b) |
| Q.11. c) | Q.31. a) |
| Q.12. c) | Q.32. b) |
| Q.13. b) | Q.33. b) |
| Q.14. a) | Q.34. a) |
| Q.15. c) | Q.35. b) |
| Q.16. a) | Q.36. d) |
| Q.17. b) | Q.37. a) |
| Q.18. a) | Q.38. d) |
| Q.19. b) | Q.39. d) |
| Q.20. b) | Q.40. b) |