

Arch

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY BATHINDA
(PUNJAB) 151001
(Estb by Punjab Govt Act No.5(2015) and Approved u/s 2(f) & 12B of the UGC Act 1956)

PhD ENTRANCE EXAMINATION – MARCH 2022

MARKS: 1.25 each question

TIME ALLOWED: 45-minutes

1. The correct sequence of stages during burning of bricks is:
 - A. Dehydration-Oxydation-Vitrification-Cooling
 - B. Vitrification – Dehydration - Oxydation- Cooling
 - C. Oxydation – Dehydration- Vitrification –Cooling
 - D. Cooling- Oxydation – Vitrification – Dehydration
2. Which type of temporary supporting structure can be used in case of rebuilding the lower part of a load bearing wall at ground floor above plinth level.
 - (A) Dead Shore
 - (B) Pit Underpinning
 - (C) Flying Shore
 - (D) Needle Scaffolding
3. The ingredient to be added to produce Aerated Cement Concrete is
 - (A) Gypsum
 - (B) Aluminium
 - (C) Calcium Chloride
 - (D) Sulphur
4. In a flat slab, the load is transferred through
 - (A) Beam action
 - (B) Membrane action
 - (C) Plate action
 - (D) Vector action
5. What is the smallest entity of raster data used in GIS
 - (A) Point
 - (B) Pixel
 - (C) Line
 - (D) Polygon
 - (E)

6. The urban land use model based on the concept of polycentric city is known as
 (A) Burgess Model
 (B) Homer Hoyt's Model
 (C) Harris Ullman Model
 (D) Hagerstrand's Model
7. Which of the international treaties are related to Climate Change and Global Warming
 (A) Cartagena protocol, 2000
 (B) Copenhagen Summit, 2005
 (C) Paris Agreement, 2016
 (D) Nagoya Protocol, 2010
8. 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
9. 'AMRUT', the new scheme launched by Government of India, stands for
 (A) Atal Mission for Rejuvenation and Urban Transformation
 (B) Atal Mission for Renewal of Urban Transportation
 (C) Atal Mission for Redevelopment of Urban Transportation
 (D) Atal Mission for Renewal and Urban Transformation

10. Associate the plans in Group I with the options in Group II

Group I	Group II
P. City Development Plan	1. PMGSY
Q. Slum Free City Plan	2. JNNURM
R. Transport Network Plan	3. RAY
S. Disaster Management Plan	4. NDMA
	5. RSVY

- (A) P-2, Q-1, R-5, S-4
 (B) P-2, Q-3, R-1, S-4
 (C) P-1, Q-3, R-2, S-5
 (A) P-3, Q-2, R-1, S-4

11. 'Finger Plan' concept of urban planning was initially adopted in

- (A) Canberra
- (B) Paris
- (C) Copenhagen
- (D) Tokyo

12. The concept of Transit Oriented Development (TOD) refers to

- (A) Transit oriented planning in institutional campuses
- (B) High density development along a mass transit corridor
- (C) Orienting residential blocks towards the transit in a gated community
- (D) Spatial design for persons with disabilities along a mass transit corridor

13. Match the Planning Concepts in Group I with their corresponding proponents in Group-II

Group I	Group II
P. Arcosanti	i. Robert Owen
Q. Industrial Town	ii. Le Corbusier
R. Broadacre City	iii. F. L. Wright
S. Radiant City	iv. Paolo Soleri

- (A) P-iv, Q-iii, R-ii, S-i
- (B) P-i, Q-iv, R-ii, S-iii
- (C) P-ii, Q-i, R-iii, S-iv
- (D) P-iv, Q-i, R-iii, S-ii

14. 'Indore Slum Networking Programme' has been planned by

- (A) B. V. Doshi
- (B) Dulal Mukherjee
- (C) Anil Laul
- (D) Himanshu Parikh

15. Comprehensive Assessment System for Built Environment and Energy

- (A) Environment Protection Act
- (B) Air pollution Act
- (C) Water Pollution Act
- (D) Forest Act

16. When did The Environment (Protection) Act, 1986, come into force?

- (A) 01 April 1986
- (B) 01 March 1986
- (C) 01 May 1986
- (D) 19 November 1986.

17. The components measuring Human Development Index (HDI) of a nation are

- (A) Life expectancy, Education and Per Capita Income
- (B) Life expectancy, Economy and Housing
- (C) Health, Development and Per Capita Income
- (D) Housing, Health and Hygiene

18. The unit of Thermal Conductivity of a material is

- (A) W/ (m K)
- (B) W/ (m² K)
- (C) m K/W
- (D) m² K/W

19. Associate the green rating system in Group-I with the respective country in Group-II

Group-I	Group-II
P CASBEE	1 UAE
Q Green Mark	2 China
R GRIHA	3 Japan
S Estidama	4 Singapore
	5 India

- (A) P-2, Q-4, R-5, S-1
- (B) P-4, Q-1, R-5, S-2
- (C) P-3, Q-5, R-1, S-2
- (D) P-3, Q-4, R-5, S-1

20. CASBEE stands for

- (A) Comprehensive Assessment System for Built Environment and Energy
- (B) Comprehensive Assessment System for Built Environment Efficiency

- (C) Center for Assessing Solar and Built Energy Environment
- (D) Comprehensive Assessment and Science of Built Environment and Energy

21. First SEZ rules and regulations came in year

- (A) 2010
- (B) 1990
- (C) 1996
- (D) 2005

22. Shifting of low economic population due to economic growth from an area is

- (A) Revitalization
- (B) Rejuvenation
- (C) Gentrification
- (D) Urban Renewal

23. Area under study in urban design is usually known as

- (A) Sub urban development
- (B) Precinct
- (C) Activity Zone
- (D) Morphology

24. Grain and texture are read on which map

- (A) Movement Diagram
- (B) Land use
- (C) Structure Plan
- (D) Figure Ground

25. An urban area has a minimum population of how many persons

- (A) 10,000
- (B) 25,000
- (C) 5,000
- (D) 20,000

26. Absorption coefficient of Marble is

- (A) .025

- (B).01
- (C).05
- (D).035

27. Water requirement per person for Day schools is

- (A) 100 Lt
- (B) 15 Lt
- (C) 45 Lt
- (D) 30 Lt

28. ECS for basement parking is

- (A) 18 sqm.
- (B) 28 sqm.
- (C) 32 sqm.
- (D) 23 sqm

29. What is the full form of PGA in earthquake design

- (A) Post ground attributes
- (B) Pre ground activity
- (C) Post ground acceleration
- (D) Peak ground acceleration

30. Average Lum/Watt is maximum for?

- (A) Low pressure sodium lamps
- (B) High pressure mercury lamps
- (C) Compact fluorescent lamps
- (D) Halogen lamps

31. The command DVIEW in Autocad permits to view
- A. A selected portion of drawing in detail
 - B. The entire screen on the monitor
 - C. A perspective of the drawing
 - D. A damaged part of the drawing
32. As per Fire Safety Norms NBC India for Buildings having Assembly and Institutional occupancies, the maximum travel distance in meters to an exit from the dead end of a corridor is
- A. 30
 - B. 21
 - C. 12
 - D. 6
33. 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. 180
34. Sun Temple of Konark predominantly built with
- A. Basalt stone
 - B. Soap Stone
 - C. Sand Stone
 - D. Granite Stone
35. Optical Corrections were employed predominantly in
- A. Gothic architecture
 - B. Greek architecture
 - C. Islamic architecture
 - D. Indian architecture
36. Minimum Strength of cement mortar used in load bearing brick masonry is
- A. 50 N/cm²
 - B. 60 N/cm²
 - C. 80 N/cm²
 - D. 100 N/cm²
37. Select the most appropriate sequence of the major spaces in a Hindu Temple
- A. Anataral- Mandapam- Ardhamandapam- Garbhgruh
 - B. Mandapam- Anataral- Ardhamandapam- Garbhgruh

- C. Ardhamandapam -Garbhgruh- Anataral- - Mandapam
- D. Ardhamandapam- Mandapam- Anataral- Garbhgruh

38. The slenderness ratio for a cantilever prismatic column of Length L with a circular cross section having radius r is

- A. $1L/r$
- B. $2L/r$
- C. $3L/r$
- D. $4L/r$

39. A Beam of 50m Diameter is simply supported at both ends and has an effective span of 6 meters. It carries two loads of 50kN each at one -third span. The section modulus (in cm^3) of the beam at the quarter span is

- A. 11.17
- B. 12.27
- C. 13.37
- D. 14.47

40. Hoop and meridional forces are associated with

- A. Dome
- B. Truss
- C. Folded Plate
- D. Space Frame

ANSWER SHEET PhD ARCHITECTURE – MARCH-2022

Q No.	Answer	Q No.	Answer
1.	A	21.	D
2.	A	22.	C
3.	B	23.	B
4.	C	24.	D
5.	B	25.	C
6.	C	26.	B
7.	C	27.	C
8.	D	28.	C
9.	A	29.	D
10.	B	30.	A
11.	C	31.	C
12.	B	32.	D
13.	D	33.	A
14.	D	34.	C
15.	A	35.	B
16.	D	36.	A
17.	A	37.	D
18.	A	38.	B
19.	D	39.	B
20.	B	40.	A