



# PUNJAB TECHNICAL UNIVERSITY JALANDHAR

Max. Marks: 90

Time: 90 Mins.

## Entrance Test for Enrollment in Ph.D. Programme

### Important Instructions

- Fill all the information in various columns, in capital letters, with blue/black ball point pen.
- Use of calculators is not allowed. Use Blue/Black ball point pen for attempting the questions.
- All questions are compulsory. No negative marking for wrong answers.
- To attempt a question, make a tick mark (✓) at the right option/answer.
- Each question has only one right answer.
- Questions attempted with two or more options/answers will not be evaluated.

Stream (Engg./Arch./Pharm./Mgmt./App.Sci./Life Sci.)

Architecture

Discipline

Architecture

Name

Father's Name

Roll No.

Date: **15-01-2011**

Signature of Candidate

Signature of Invigilator

Q. 1 Which of the following is a World Heritage Site in INDIA

- (a) Charminar, Hyderabad
- (b) Chatrapati Shivaji Terminus, Mumbai
- (c) Golden Temple, Amritsar
- (d) Padmanabhapuram Palace, Trivandrum

Q. 6 World Heritage Sites are designated by

- (a) UNDP
- (b) UNESCO
- (c) UNICEF
- (d) UNO

Q. 2 Corinthian orders were used by

- (a) Greeks
- (b) Romans
- (c) Egyptians
- (d) Red Indians

Q. 7 LED stands for

- (a) Light Emitting Diode
- (b) Liquid Emission Diode
- (c) Left Edge Diode
- (d) None of the above

Q. 3 Which of the following is a lake?

- (a) Red Sea
- (b) Black sea
- (c) Caspian Sea
- (d) Yellow Sea

Q. 8 The pitch of a truss carrying 'Snow Load'

- (a) is equal to 1/4
- (b) is < 1/4
- (c) is > 1/4
- (d) none of the above

Q. 4 The Montreal Biosphere is an example of a

- (a) Lowrise Dome
- (b) Geodesic Dome
- (c) Flattened Dome
- (d) None of the above

Q. 9 Golden Gate Bridge is an example of

- (a) cantilever bridge
- (b) Truss bridge
- (c) a suspension bridge
- (d) None of the above

Q. 5 Mesopotamia means

- (a) Land between two rivers
- (b) Land near the sea
- (c) Land surrounded by a lake
- (d) An island

Q. 10 A byte consists of

- (a) 4 bits
- (b) 8 bits
- (c) 16 bits
- (d) 24 bits

- Q. 11 VIBGYOR stands for
- (a) colours of the Norwegian flag
  - (b) colours of the Australian flag
  - (c) colours of the German flag
  - (d) Colours of the Spectrum
- Q. 12 The bricks of an arch are called
- (a) spandrels
  - (b) keystones
  - (c) voussoirs
  - (d) frogs
- Q. 13 The seismic band at the base of a ground floor is called
- (a) Strut
  - (b) Tie
  - (c) Plinth Beam
  - (d) Earthbonding
- Q. 14 Organic Architecture is credited to
- (a) Louis Sullivan
  - (b) Walter Gropius
  - (c) Frank Lloyd Wright
  - (d) Alvar Alto
- Q. 15 The colours of the Indian National flag from top to bottom are
- (a) Green White Saffron
  - (b) Saffron Blue Green
  - (c) White Saffron Green
  - (d) Saffron White Green
- Q. 16 Theory of Relativity was given by
- (a) Isaac Newton
  - (b) Graham Bell
  - (c) Archimedes
  - (d) Albert Einstein
- Q. 17 Refrigerators work on the principle of
- (a) Evaporation
  - (b) Aerosols
  - (c) LED
  - (d) None of the above
- Q. 18 A figure whose two sides are parallel but not equal is
- (a) a rectangle
  - (b) a square
  - (c) a trapezium
  - (d) a parallelogram
- Q. 19 In residential lighting the most efficient source is :
- (a) Incandescent Lamp
  - (b) CFL Compact Fluorescent Lamp
  - (c) Fluorescent Tube 40 Watt
  - (d) None of the above
- Q. 20 CIAM stands for
- (a) Congress International Architecture de' Moderne
  - (b) Congress Indian Architecture de'Moderne
  - (c) Cubist International Architecture de' Materials
  - (d)Caribbean International Architecture de'Moderne
- Q. 21 In street lighting , along residential streets the most favoured light source is
- (a) CFL
  - (b) Tubelight
  - (c) High Pressure Mercury Vapour Lamp
  - (d) High Pressure Sodium Vapour lamp
- Q. 22 LBZ area in Delhi stands for
- (a) Lutyens Bungalow Zone
  - (b) Lal Bahadur Zone
  - (c) Lawrence Boyce Zone
  - (d) Lord Border Zone
- Q. 23 The quantitative measure of the earthquake is called
- (a) Intensity
  - (b) Magnitude
  - (c) Epicentre
  - (d) Aftershocks
- Q. 24 The site of the World Trade Centre, Lower Manhattan, New York, is now called
- (a) Underground
  - (b) Ground Zero
  - (c) Zero Ground
  - (d) World Trade Centre
- Q. 25 Sunderbans are
- (a) Tidal mangrove forests
  - (b) Mango groves
  - (c) Thick forests
  - (d) Cold Deserts
- Q. 26 The Sydney Opera House was designed by
- (a) Charles Correa
  - (b) Richard Meir
  - (c) James Stirling
  - (d) John Utzon

- Q. 27 A gopuram is a
- (a) Hall of Pillars
  - (b) A Gateway
  - (c) A row of free standing columns
  - (d) None of the above
- Q. 28 The Master plan of Chandigarh is credited to
- (a) Pierre Jeanerret,
  - (b) Maxwell Fry
  - (c) Jane Drew
  - (d) Le Corbusier
- Q. 29 Minimum size of a Habitable Room is
- (a) 90 squarefeet
  - (b) 100 square feet
  - (c)110 square feet
  - (d) 80 square feet
- Q. 30 Queens Necklace is the name given to
- (a) Marine Drive Mumbai
  - (b) Chowringee Lane, Calcutta
  - (c) Ring Road, New Delhi
  - (d) JanMarg, Chandigarh
- Q. 31 The drainage slope in a roof is given in the
- (a) Roof Slab
  - (b) Tile terracing
  - (c) Mud Phuska
  - (d) None of the above
- Q. 32 The Garden City Movement is credited to
- (a) Ebenezer Howard
  - (b) Patrick Geddes
  - (c) Sir Ambercombie
  - (d) Edwin Lutyens
- Q. 33 GBCI stands for
- (a) Green Building Council, India
  - (b) Grand Buildings Council , India
  - (c) Green Buildings Council, International
  - (d) None of the Above
- Q. 34 ECBC Stands for
- (a) Energy Consumption Base Code
  - (b) Energy Conservation Building Code
  - (c) Energy Consumption Balloon Code
  - (d) Energy Conservation Bureau Code
- Q. 35 The internationally recognized green building certification system LEED stands for
- (a) Leadership in Evacuation Efficiency Design
  - (b) Leadership in Energy & Environmental Design
  - (c) Low Energy and Efficiency Demand
  - (d) None of the above
- Q. 36 A Zero Discharge Building
- (a) Reuses its waste water
  - (b) Generates its own electricity
  - (c) Reuses and Recycles all its waste water
  - (d)None of the above
- Q. 37 The highest rating for a LEED building is
- (a) Gold
  - (b) Platinum
  - (c) Diamond
  - (d) Zinc
- Q. 38 In a concrete mix of 1:2:4, 4 designates
- (a) sand
  - (b) cement
  - (c) aggregate
  - (d) none of the above
- Q. 39 The term Connurbation is credited to
- (a) Ebenezer Howard
  - (b) Patrick Geddes
  - (c) Paolo Soleri
  - (d) Edwin Lutyens
- Q. 40 Torsional steel bars are preferred because of their
- (a) Greater bonding with concrete
  - (b) Easy fabrication
  - (c) Less Corrosion than plain bars
  - (d) Lower Cost
- Q. 41 Which of the following is **not** nominated as a World Heritage City by UNESCO
- (a) Brasilia
  - (b) White City of Tel Aviv
  - (c) Le Havre
  - (d) Chandigarh
- Q. 42 A 'Frog' in a brick aids
- (a) Identification of the right side of a brick
  - (b) Greater bonding
  - (c) identification of kiln
  - (d) handling by the mason

- Q. 43 Vernacular Architecture refers to
- (a) Building with local materials
  - (b) Building with local techniques and labour
  - (c) Respecting traditional methods of construction
  - (d) All the above
- Q. 44 1 Ton of refrigeration is required to cool a volume of
- (a) 1000 cubic feet
  - (b) 10 cubic feet
  - (c) 1 cubic feet
  - (d) 47 cubic feet
- Q. 45 One Hectare is equal to
- (a) 0.47 acres
  - (b) 1.47 acres
  - (c) 2.47 acres
  - (d) 0.047 acres
- Q. 46 Which of the following would be the development of surfaces of a Cylinder
- (a) A rectangle
  - (b) A rectangle and two circles
  - (c) A triangle and a circle
  - (d) None of the above
- Q. 47 Which of the following is not an element of Design
- (a) Point
  - (b) Line
  - (c) Plane
  - (d) Rhythm
- Q. 48 Which of the following represents the Fibonacci Series, by Leonardo of Pisa
- (a) 1, 1, 2, 3, 5, 8, 13, 26, 52...
  - (b) 1, 2, 3, 4, 5, 6, 7...
  - (c) 1, 1, 2, 4, 8, 16, 32...
  - (d) 1, 3, 6, 9, 12, 15, 18...
- Q. 49 The ratio of the sides of a Golden Rectangle are
- (a) 1:1.618
  - (b) 1:1.514
  - (c) 1:1.415
  - (d) 1:213
- Q. 50 'Ken' is the Japanese system of proportion derived from the
- (a) Bedroom size
  - (b) Japanese fan
  - (c) Tatami mat
  - (d) Japanese fishing boat
- Q. 51 C.A. Doxiadis coined the term
- (a) Ekistics
  - (b) Domus
  - (c) Modulor
  - (d) Connurbation
- Q. 52 Canberra was designed by
- (a) Lucio Costa
  - (b) Oscar Neimeyer
  - (c) Richard Meir
  - (d) Walter Burley Griffin
- Q. 53 Brasillia was designed by
- (a) Roberto Burle Marx
  - (b) Lucio Costa
  - (c) Alvar Alto
  - (d) Kenzo Tange
- Q. 54 The Rebuilt city of Le Havre, France represents Auguste Perret's
- (a) School of Bauhaus
  - (b) School of Structural Classicism
  - (c) School of Art Nouveau
  - (d) School of Cubism
- Q. 55 The 'Bilbao' museum in Spain by Frank Gehry is externally faced with
- (a) Steel
  - (b) Titanium
  - (c) Platinum
  - (d) Copper
- Q. 56 The 'Hagia Sophia' is located in
- (a) Portugal
  - (b) Venice
  - (c) Rome
  - (d) Istanbul
- Q. 57 The sacred place in the Greek City was called
- (a) Agora
  - (b) Acropolis
  - (c) Stoa
  - (d) Cloister

Q. 58 Grid Iron city planning is credited to

- (a) Vitruvius
- (b) Herodotus
- (c) Pythagoras
- (d) Hippodamus

Q. 59 Ringstrasse is located in

- (a) Bilbao
- (b) Paris
- (c) Vienna
- (d) Berlin

Q. 60 Agora stands for

- (a) Marketplace
- (b) Hall of Worship
- (c) Pillared Hall
- (d) Assembly of Ministers

Q. 61 The 'Vernacular Architect of Kerala' is

- (a) BV Doshi
- (b) Yatin Pandya
- (c) Laurie Baker
- (d) Raj Rewal

Q. 62 Paris is built along the banks of the river

- (a) Seine
- (b) Danube
- (c) Po
- (d) Piave

Q. 63 Venice is called the city of

- (a) Churches
- (b) Gates
- (c) Canals
- (d) Arches

Q. 64 In an architectural studio with computers, the optimum lighting levels are

- (a) 100Lux
- (b) 250 Lux
- (c) 500 Lux
- (d) 1000 Lux

Q. 65 The tallest building as per the Council of Tall Buildings and Urban Habitat (CTBUH) is

- (a) Burj Dubai
- (b) CNN Tower
- (c) Sears Tower
- (d) Taipei 101

Q. 66 The Council on Tall Buildings and Urban Habitat, recognizes a building only if

- (a) at least seventy-five percent of its height is made up of floor plates containing habitable floor area.
- (b) at least thirty percent of its height is made up of floor plates containing habitable floor area.
- (c) at least fifty percent of its height is made up of floor plates containing habitable floor area.
- (d) None of the above.

Q. 67 Which of the following takes into account the climatic parameters i.e. Air Temperature, Wind Speed, and Activity Level

- (a) Psychometric Chart
- (b) Comfort Zone Chart
- (c) Eco Table
- (d) Mahoney Table

Q. 68 A column is defined as a 'Long Column' when its slenderness ratio

- (a) is greater than 5.....
- (b) is greater than 9.....
- (c) is greater than 10.....
- (d) is greater than 12.....

Q. 69 A Portal Frame is an example of which structural system?

- (a) Surface Active
- (b) Bulk Active
- (c) Form Active
- (d) Vector Active

Q. 70 Condition or events that threaten or have the potential for causing injury to life/damage to property, environment is called

- (a) vulnerability
- (b) Risks
- (c) Disaster
- (d) Hazard

Q. 71 Wind Loads are considered in the design of

- (a) High Rise Buildings
- (b) Low Rise Buildings
- (c) Buildings under the sea
- (d) None of the above

Q. 72 The human eye is able to distinguish change in lighting level, when the change is as significant as

- a) 25%
- b) 50%
- c) 75%
- d) 100%

Q. 73 Researchers organize their research by formulating and defining a research problem. This helps them so that they can in the best possible way:

- (a) focus the research process
- (b) draw conclusions
- (c) reflect the real world situation
- (d) all of the above

Q. 74 The t-test (also called the Student's T-Test) is

- (a) a statistical significance test
- (b) a test which helps the researcher conclude whether a hypothesis is supported or not
- (c) one which compares two supposedly equal sets of data to see if they really are alike or not
- (d) All the above

Q. 75 Selection of Research Method depends on

- (a) Intelligence level of researcher
- (b) Economic level of researcher
- (c) Geographic Location of Researcher
- (d) All the above

Q. 76 A research is not aimed at

- (a) Testing a hypothesis
- (b) Proving an argument
- (c) Filling gaps in the existing knowledge
- (d) Finding new knowledge

Q. 77 Which of the following is not part of the research process?

- (a) Analysis
- (b) Data Documentation
- (c) Formulation of a Research Questionnaire
- (d) General Recommendations

Q. 78 A research report provides

- (a) Information
- (b) Results
- (c) Total findings of the study
- (d) References

Q. 79 Independent Variable is

- (a) the cause
- (b) the effect
- (c) both cause and effect
- (d) none of the above

Q. 80 What is mean by interview ?

- (a) Type of research
- (b) Method of research
- (c) Tool of research
- (d) Presentation technique of report

Q. 81 Questionnaire is a

- (a) Tool for research
- (b) Measurement technique
- (c) Tool for data collection
- (d) All the above

Q. 82 A null hypothesis is a

- (a) hypothesis which a researcher tries to disprove.
- (b) Normally, the null hypothesis represents the current view/explanation of an aspect of the world that the researcher wants to challenge.
- (c) hypothesis which a researcher tries to prove.
- (d) a and b above are correct

Q. 83 What is the meaning of research design?

- (a) Planning of research
- (b) Working of research
- (c) Tool of research
- (d) Process of research

Q. 84 What are the two methods of observations in research?

- (a) Students and teachers
- (b) Direct and indirect
- (c) Participants and non-participants
- (d) Close and open

Q. 85 Who used first the term Bibliometry?

- (a) S. C. Bradford
- (b) Alan Printchard
- (c) James Boyd
- (d) A. Neelmeghan

Q. 86 Bibliometrics is a term related to

- (a) Biblical Studies
- (b) Bibliographical Studies
- (c) Botanical Studies
- (d) Biometric Studies

Q. 87 Biometrics is the study of

- (a) Fossils
- (b) Biomechanics
- (c) uniquely recognising humans
- (d) none of the above

Q. 88 Research report should be written in

- (a) English language
- (b) Mother language
- (c) Simple language
- (d) Strong language

Q. 89 Controlled group is a term which is used in

- (a) Survey research
- (b) Historical research
- (c) Experimental research
- (d) Descriptive research

Q. 90 Which of the following is not a type of reliability?

- (a) Test-Retest Reliability
- (b) Instrument Reliability
- (c) Internal Consistency Reliability
- (d) Replication Studies