

PUNJAB PUBLIC SERVICE COMMISSION

Objective Type Test (Sep-2018) for Recruitment of Planning Officer in the
Department of Town & Country Planning, Government of Punjab

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

Total Questions: 170
Time Allowed: 170 Minutes

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. _____

Candidate's Signature (Please sign in the box)

Question
Booklet Set
D
Booklet Series No.

INSTRUCTIONS

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 boxes out of 1 to 9 of the Optical Mark Reader (OMR) response sheet, supplied separately
2. Use only blue or black ball point pen to fill the relevant columns on this page as well as in OMR sheet. Use of Ink pen or any other pen is not allowed.
3. The candidate shall be liable for any adverse effect if the information given above is wrong or illegible or incomplete.
4. Each candidate is required to attempt 170 questions in 170 minutes, except for orthopedically/visually impaired candidates, who would be given 57 extra minutes, by marking correct responses on the OMR sheet.
5. The candidates, when allowed to open the question paper booklet, must first check the entire booklet to confirm that the booklet has complete number of pages, the pages printed correctly and there are no blank pages. In case there is any such error in the question paper booklet then the candidate should IMMEDIATELY bring this fact to the notice of the Invigilation Staff and obtain a new booklet of the same series as given earlier.
6. The serial number of the new Question booklet if issued for some reason should be entered in the relevant column of the OMR. The Invigilation Staff must make necessary corrections in their record regarding the change in the serial no. of Question booklet.
7. The question paper booklet has 26 pages.
8. The paper consists of total 340 Marks. Each question shall carry 2 marks. There are four options for each question and the candidate has to mark the MOST APPROPRIATE answer on the OMR response sheet.
9. There is no negative marking for wrong answers or questions not attempted by the candidate.
10. The candidate MUST READ INSTRUCTIONS BEHIND THE OMR SHEET before start answering the Questions and check that two carbon copies attached to the OMR sheet are intact.

Section-I

Directions (Questions 1 to 3): Read the following information carefully and answer the questions given below it:

Eight students A, B, C, D, E, F, G and H are planning to enjoy car racing. There are only two cars and following are the conditions:

- (i) One car can accommodate maximum five and minimum four students.
- (ii) A will sit in the same car in which D is sitting but H is not in the same car
- (iii) B and C can't sit in the same car in which D is sitting
- (iv) F will sit in the car of four people only along with A and E but certainly not with G.

1. If H and G are sitting in the same car, who are other two students sitting in the same car?
(a) B and C (b) C and D (c) B and D (d) E and B
2. If E and A are sitting in the same car, which of the following statements is true?
(a) Five students are sitting in the same car
(b) B is sitting in the same car
(c) F is not sitting in the same car
(d) G is not sitting in the same car
3. Which of the following statements is superfluous for the above sitting arrangements ?
(a) Only (i) (b) Only (ii) (c) Only (iii) (d) Only (iv)
4. Which two months in a year have the same calendar?
(a) June, October (b) April, November
(c) April, July (d) October, December
5. Arrange the following in a meaningful Sequence in:
1) Phrase 2) Letter 3) Word 4) Sentence
(a) 1,2,3, 4 (b) 1,3,2,4 (c) 2,3,1,4 (d) 2,3,4,1
6. In a queue, A is eighteenth from the front while B is sixteenth from the back. If C is twenty-fifth from the front and is exactly in the middle of A and B, then how many persons are there in the queue?
(a) 45 (b) 46 (c) 47 (d) 48
7. A man is facing west. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anti-clockwise direction. Which direction is he facing now ?
(a) South (b) North-west (c) West (d) South-west

8. 'NRC' was much in news recently related to a Supreme Court Monitored exercise in Assam to identify the genuine Indian nationals living in the state. The full form of NRC is:-
- (a) National Registration Council (b) National Register of citizens
(c) National Roll of citizens (d) National Reverification Council
9. POCSO Act, is related to which of the following:
- (a) Industrial labour class (b) Working Women
(c) Minorities (d) Children
10. ABCD : NPRT :: FGHI : ?
- (a) KLMN (b) OQRT (c) RTUW (d) SUWY
11. If in a certain language, 'oka Peru' means 'fine cloth', 'meta lisa' means 'clear water' and 'dona lisa peru' means 'fine clear weather', which word in that language means 'weather' ?
- (a) Peru (b) Oka (c) Meta (d) Dona
12. Who was the First women President of Indian National Congress?
- (a) Nellie Sengupta (b) Annie Besant
(c) Kadambini Ganguly (d) Sarojini Naidu
13. If in a certain language, FLOWER is coded as UOLDVI, then how is TERMINAL coded in that language ?
- (a) FLKPMROZ (b) GVINRMZO (c) RVNIGLKA (d) MNIVGYEO
14. A person starts from a point A and travels 3 km eastwards to B and then turns left and travels thrice that distance to reach C. He again turns left and travels five times the distance he covered between A and B and reaches his destination D. The shortest distances between the starting point and the destination is:
- (a) 12 km (b) 15 km (c) 16 km (d) 18 km
15. Which town is known as 'Steel-town' of Punjab?
- (a) Ludhiana (b) Hoshiarpur
(c) Jalandhar (d) Mandi Gobindgarh
16. Natural gas is primarily composed of
- (a) Methane (b) Ethane
(c) Carbon dioxide (d) Pentane

- 17.** The higher altitude Chandratatal lake, a Ramsar site is found in which state
(a) Uttarakhand (b) Himachal Pradesh
(c) Arunachal Pradesh (d) Kashmir
- 18.** If in a certain language, CHARCOAL is coded as 45164913 and MORALE is coded as 296137, how is the word ALLOCHRE coded in that language?
(a) 13396875 (b) 16693985 (c) 13394567 (d) 19943785
- 19.** In a certain code, DECEMBER is written as ERMBCEDE. Which word will be written as ERMBVENO in that code?
(a) AUGUST (b) SEPTEMBER (c) OCTOBOR (d) NOVEMBER
- 20.** Which Indian Wrestler has created history for being the first female wrestler to have won gold in wrestling in Asian Games in 2018?
(a) Vinesh Phogat (b) Babita Phogat
(c) Geeta Phogat (d) Babita Phogat
- 21.** Directions (): In the following question, choose one word which can be formed from the letters of the given word:
EXAMINATION
(a) ANIMAL (b) EXAMINER (c) NATIONAL (d) ANIMATION
- 22.** Which name will come in the last in a telephone directory?
(a) Mahender (b) Mahendra (c) Mahinder (d) Mohinder
- 23.** Who is the new Governor of Jammu & Kashmir?
(a) Satya Pal Malik (b) N.N. Vohra
(c) Kaptan Singh Solanki (d) Ganga Prasad
- 24.** In the series 357, 363, 369,....., what will be 10th term?
(a) 405 (b) 411 (c) 413 (d) 417
- 25.** Which one out of the following personalities who have expired recently was popularly known as "Kalaighar" ?
(a) Atal Bihari Vajpayee (b) M. Karunanidhi
(c) Kuldeep Nayar (d) J. Jaylalithaa

26. If 'black' means 'pink', 'pink' means 'blue', 'blue' means 'white', 'white' means 'yellow', 'yellow' means 'red' and 'red' means 'brown', then what is the colour of clear sky?
(a) Brown (b) Red (c) Blue (d) Pink
27. Identify the wrong number in the series:
69, 55, 26, 13, 5
(a) 5 (b) 13 (c) 26 (d) 55
28. Who is the current army Chief of Pakistan?
(a) General Raheel Sharif (b) General Ashfaq Parvez Kayani
(c) General Shuja Pasha (d) General Qamar Javed Bajwa
29. A, B, C, D and E are five friends. A is shorter than B but taller than E. C is the tallest. D is shorter than B and taller than A. Who has two persons taller and two persons shorter than him/her ?
(a) A (b) B (c) C (d) D
30. A monkey climbs 30 feet at the beginning of each hour and rests for a while when he slips back 20 feet before he again starts climbing in the beginning of the next hour. If he begins his ascent at 8.00a.m., at what time will he first touch a flag at 120 feet from the ground?
(a) 4 p.m. (b) 5 p.m.
(c) 6 p.m. (d) None of these

Section-II

31. The pile which is provided with a bulb filled with concrete at its lower end, is known as
(a) Simplex pile (b) Mac-Arthur pile
(c) Raymond pile (d) Franki pile
32. What is the time between sunset and darkness called when the sky is still lit by the sun from below the horizon but artificial lights start appearing as well, in turn affecting on how buildings appear in photographs?
(a) Blue Hour (b) Golden hour (c) Green flash (d) Polar night
33. Which of the following is NOT a method of taking out quantities like earth work, foundation concrete, brickwork in plinth etc.?
(a) Long wall - short wall method
(b) Centre line method
(c) Partly center line and short wall method
(d) Lumpsum quantity methods

- 34.** To enhance the performance of concrete by using ordinary Portland cement, which of the following shall be an effective method?
- (a) Lesser voids or gaps by proper compaction
 - (b) Decrease in the cement-aggregate ratio
 - (c) Increase in water-cement ratio
 - (d) All of the above

- 35.** The popular concepts in urban & town planning were proposed by eminent planners, designers & architects. Co-relate the concepts with their proponents.

Concepts		Proponents	
P	Arcosanti	1	Etzioni
Q	Broadacre city	2	Paul Davidoff
R	Advocacy planning	3	F L Wright
S	Mixed scanning model	4	Paolo Soleri

- (a) P4 Q3 R2 S1 (b) P3 Q4 R1 S2 (c) P3 Q4 R2 S1 (d) P4 Q1 R3 S2

- 36.** Green procurement is the use of building materials that are _____ and _____ while eliminating the use of materials that contain ozone depleting substances.

- (a) new; trendy
- (b) recyclable; rapidly renewable
- (c) used; non-renewable
- (d) green coloured; brown coloured

- 37.** The pointed Arch used during Tudor period was:

- (a) Three centred arch
- (b) Four centred arch
- (c) Two centred arch
- (d) Five centred arch

- 38.** Foliated & Nonfoliated rocks are types of which basic classification of rocks?

- (a) Igneous
- (b) Metamorphic
- (c) Sedimentary
- (d) Composite

- 39.** The New Capital (Periphery) Control Act, 1952 extends to that area of the State of Punjab which is adjacent to and is within a distance of _____ on all sides from the outer boundary of the land acquired for the Capital of the State.

- (a) Twenty miles
- (b) Five miles
- (c) Not specified
- (d) Ten miles

- 40.** In architectural photography, when several objects are located away from the camera, the space between them seems tighter. What is this effect generally called as?
- (a) Compressed perspective (b) Converging entities
(c) Distorted perspective (d) All of the above
- 41.** Tall buildings are subjected to various types of loads both permanent and transitory. Which of the following is a type of 'Lateral load' impacting the design?
- (a) Dead load (b) Wind load (c) Live load (d) Blasts load
- 42.** Which of the following is NOT a contribution of Romans to architecture?
- (a) Development & use of concrete
(b) Development of arches & domes
(c) Construction of public spaces such as baths
(d) Development of Doric & Ionic columns
- 43.** Bulking of sand shall be highest in which of the following?
- (a) Coarse sand (b) Fine sand
(c) Medium sand (d) Sand saturated in water
- 44.** CPWD handbook for planning of Office buildings directs that for buildings more than 24 m in height, refuge area along the periphery of the building with being open to sky in order to accommodate the occupants of two consecutive floors shall be provided with area of atleast:
- (a) 15 sqm or an area equivalent to 0.3 sqm per person
(b) 5 sqm or 0.1 sqm per person
(c) 30 sqm overall
(d) Subject to space availability
- 45.** A line on a map which joins places having the same rainfall is called an:
- (a) Isohyet (b) Isobar (c) Isotherm (d) Isohel
- 46.** The ancient Indian treatise on statecraft, economic policy and military strategy written in Sanskrit by Kautilya, with specific fundamentals to the practices of design and development of human settlements is called as:
- (a) The Yajur veda (b) The Arthashastra
(c) The Mandala (d) The Dharmasutra

- 47.** The main objective of keeping house plans compact with thick adobe bricks or stones in hilly areas is mainly due to which of the following?
- (a) In response to the climatic conditions
 - (b) To achieve aesthetically pleasing built
 - (c) In response to the seismic concerns
 - (d) In response to locally available materials
- 48.** As per PUDA regulations, the setbacks around any non-residential building of height 48 m and above shall be minimum of:
- (a) 16m
 - (b) 6 m
 - (c) 10m
 - (d) $\frac{1}{2}$ the height of the building
- 49.** In design, the geometric relationship of the sides of volumes and also the ratio of individual parts of the composition as a judgmental visual analysis is called as:
- (a) Scale
 - (b) Unity
 - (c) Proportion
 - (d) Balance
- 50.** 'On hill top consisting of a rolling dark-coloured, pointed roof on smooth, whitewashed, concrete walls with small punched-in openings expressing the ideas of the Architect about volume, light & plan'. Which iconic building does this refer to?
- (a) Notre Dame Chapel at Ronchamp
 - (b) Villa Savoy at Poissy
 - (c) United' Habitation in Marseilles
 - (d) Parliament at Chandigarh
- 51.** Which architectural firm has won an international competition for the design of the Navi Mumbai International Airport (NMIA)?
- (a) Gensler, USA
 - (b) Zaha Hadid Architects
 - (c) HOK, USA
 - (d) Architect Hafeez Contractor
- 52.** In the Chandigarh Master plan, except for 10 sectors, the rest of the sectors are of the typical size of:
- (a) 600 m x 600 m
 - (b) 800 m x 800 m
 - (c) 1200 m x 1200 m
 - (d) 800 m x 1200 m
- 53.** Grillage foundation
- (a) is used to transfer heavy structural loads from steel columns to a soil having low bearing Capacity
 - (b) is light and economical
 - (c) does not require deep cutting as the required base area with required pressure intensity is obtained at a shallow depth
 - (d) All the Above

- 54.** What is the type of mechanical ventilation system provided during construction or functioning of underground metro stations or such facilities?
- (a) Local exhaust ventilation (LEV)
 - (b) Tunnel ventilation system (TVS)
 - (c) Underground ventilation management system
 - (d) Plenum ventilation system (PVS)
- 55.** Cement stored on construction site after a certain time shall need to be retested before use in work & sent to Lab for testing if the Engineer-in-charge have reasons to consider that any cement is defective and until the results of such tests are found satisfactory, it shall not be used in any work. What is the time period in consideration?
- (a) 90 days
 - (b) 30 days
 - (c) 15 days
 - (d) 120 days
- 56.** Which is the global award that recognizes efforts in New Urbanism and New Classical Architecture towards sustainable environments and is endowed with stupendous prize money?
- (a) The Driehaus Architecture Prize
 - (b) Pritzker Prize
 - (c) AIA Gold Medal
 - (d) Green Good Design
- 57.** The earliest Indian town planning principle in which the pattern of the city plan resembles the petals of a lotus radiating outwards from the center, normally such a city being treated as an island is called as:
- (a) Padmaka
 - (b) Nandyavarta
 - (c) Sarvatobhadra
 - (d) Dandaka
- 58.** As per NBC 2016, under 'Fire & Life safety' section what are the three broad clauses of discussions?
- (a) Fire hazards, fire ratings, fire extinguishers
 - (b) Fire prevention, fire compartmentation, Fire protection
 - (c) Fire prevention, fire safety, fire protection
 - (d) Fire emergency in buildings, firefighting measures, Life safety
- 59.** While deciding the type of architectural treatment and finishes for prefabricated buildings, which aspect shall be considered?
- (a) Suitability for mass production techniques
 - (b) Use of lightweight materials in the structural system
 - (c) Possibility of using different types of finishes
 - (d) All of the above

- 60.** The coating applied to the visible (above-grade) portion of foundation walls to hide surface imperfections is termed as:
(a) Parging (b) Weeping tile (c) Pilaster (d) Veneer
- 61.** In HVAC, the ratio of net cooling capacity in BTU/h to total rate of electric input in watts under designated operating conditions is termed as:
(a) Energy Efficiency Ratio (EER)
(b) Building Energy Simulation (BES)
(c) Building Management System (BMS)
(d) Coefficient of Performance (CoP)
- 62.** As per PUDA regulations, it is directed that buildings shall have roof top water harvesting system to recharge ground water as a means of achieving sustainable community. This applies to plot areas of:
(a) 100 sq yard & above (b) 1000 sq yard & above
(c) 500 sq yard & above (d) None of the above
- 63.** Which architect and urban theorist emphasized on the depletion of urban spaces and non-cohesiveness of traditional urban structure?
(a) Charles Moore (b) B V Doshi
(c) Rob Krier (d) Aldo Rossi
- 64.** In a refrigeration system which is the component that is directly in contact with the object/space to be cooled?
(a) Condenser (b) Compressor
(c) Throttling device (d) Evaporator
- 65.** Calculation of load on a RCC slab per unit area using the formula $D \times 25 \text{ kN/m}^2$, where D is thickness of slab in m, gives which of the following loads?
(a) Live load (b) Dead load (c) Floor finish (d) Overall load
- 66.** In the installation of Axial fans in a HVAC system, what shall be required to be provided for the protection from extraneous elements, especially at fresh air intake and at exhaust outlet to outdoor?
(a) Bird screen (b) Double canvas connection
(c) Acoustic silencer (d) Vibration isolator

- 67.** Housing & Urban Development Department- Punjab oversees urban growth & development with specific objectives. Which of the following is NOT a listed objective?
- (a) Regulate planned urban expansion to aid provision of adequate infrastructure to the citizens
 - (b) Create healthy competition amongst various businesses in urban cores
 - (c) Formulate policies and schemes for urban development
 - (d) Boost investment opportunities by accelerating economic growth of cities and towns
- 68.** Which of the following cities was designed by German Architect & Planner Otto Konigsberger?
- (a) Chandigarh
 - (b) Navi Mumbai
 - (c) Bhubaneshwar
 - (d) Salt Lake- Kolkata
- 69.** In a project, post the issue of completion certificate, in the case of latent defects observed because of materials and of design respectively, who shall be liable to whom?
- (a) Contractor is liable to Architect in both cases
 - (b) Architect is liable to his client in both instances
 - (c) Contractor is liable to employer & Architect to his client, respectively
 - (d) Contractor is liable to the client and Architect to the profession, respectively
- 70.** The ratio of the moment of inertia of a circular plate and that of a square plate for equal depth, is
- (a) less than one
 - (b) more than one
 - (c) equal to one
 - (d) equal to $3\pi/16$
- 71.** For depicting interior details, the advantage of Two-point perspective shall be:
- (a) VPL lies within the drawing
 - (b) Enables three sides of the space to be shown
 - (c) Reverse image of the grid may be used
 - (d) All of the above
- 72.** Localities such as Model Town, Bazaar Company, Indira Colony, Abrol Nagar are part of which LPA?
- (a) Pathankot
 - (b) Batala
 - (c) Goindwal
 - (d) Gurdaspur

- 73.** Which of the following is a drawback of using fly ash in building construction?
- Can substitute for Portland cement.
 - Considered a non-shrink material
 - Reduces CO₂ emissions
 - Slower strength gain
- 74.** Match the following mechanical ventilation systems with their brief description.
- | | | | |
|---|-----------------|---|--|
| P | Exhaust system | 1 | Supplying fresh air into the space at a continuous rate |
| Q | Plenum system | 2 | Removing used air & letting fresh air find its way through openings |
| R | Positive system | 3 | Both supplying & removing air |
| S | Balanced system | 4 | Supplying air into the space and forcing out used air through grilles etc. |
- P-2, Q-4, R-1, S-3
 - P-4, Q-2, R-1, S-3
 - P-2, Q-1, R-4, S-3
 - P-3, Q-2, R-4, S-1
- 75.** The Law of Polygon of Forces states that
- If a polygon representing the forces acting at point in a body is closed, the forces are in equilibrium
 - If forces acting on a point can be represented in magnitude and direction by the sides of a polygon taken in order, then the resultant of the forces will be represented in magnitude and direction by the closing side of the polygon
 - If forces acting on a point can be represented of a polygon taken in order; their sides of a polygon taken in order, their resultant will be represented in magnitude and direction by the closing side of the polygon, taken in opposite order.
 - If forces acting on a point can be represented in magnitude and direction by the sides of a polygon in order, the forces are in equilibrium.
- 76.** Which is the most popular method of structural flood protection and have been constructed extensively in the past in most flood prone zones such as Orissa & Andhra Pradesh?
- Channel improvement
 - Dredging of rivers
 - Flood plain zoning
 - Embankments
- 77.** 'Finger Plan' concept of urban planning was initially adopted in which city?
- Paris
 - Copenhagen
 - Canberra
 - Tokyo

78. The nineteenth and twentieth-century architectural style in which a single piece of work incorporates a mixture of elements from previous historical styles to create something that is new and original is termed as:

- | | |
|-----------------|----------------------|
| (a) Eclecticism | (b) Deconstructivism |
| (c) Revivalism | (d) Art nouveau |

79. As per the Burgess model of city planning, which of the following is not one of the listed zones?

- | | |
|-------------------------------|------------------------|
| (a) Central business district | (b) Zone of transition |
| (c) Commuter's zone | (d) Depleting zone |

80. Identify the right sequence in undertaking a typical chain survey procedure.

- (a) Reconnaissance - Choice of Stations - Station Marking - Witnessing - Offsetting - Sketching
- (b) Choice of Stations - Reconnaissance - Witnessing - Station Marking - Offsetting - Sketching
- (c) Reconnaissance - Witnessing – Offsetting - Choice of Stations - Station Marking - Sketching
- (d) Sketching- Reconnaissance - Station Marking - Choice of Stations - Witnessing - Offsetting

81. Interceptors are devices installed to separate undesirable matter from the wastewater and permitting normal liquid wastes to discharge to the sewer. Co-relate the interceptors in first column to their usage in spaces as per the waste generated in second column.

P	Grease interceptors	1	used in order to remove different solid particles from the wastewater before it enters the building sewer
Q	Oil separators	2	used for kitchens, cafeterias, restaurants, and similar establishments
R	Sand interceptors	3	used where flammable liquids might be discharged to the sewer

- | | | | |
|--------------|--------------|--------------|--------------|
| (a) P2 Q3 R1 | (b) P4 Q2 R1 | (c) P2 Q3 R1 | (d) P2 Q1 R3 |
|--------------|--------------|--------------|--------------|

82. Which of the following is correct w.r.t Apartment design?

- (a) Carpet area- Wall area= Common area
- (b) Built up area+ Common area= Super built up area
- (c) Carpet area+ Common area= Super built up area
- (d) Wall area+ Common area= Built up area

- 83.** The traditional vernacular style of building in the hilly regions as seen in Himachal Pradesh involving alternative layers of timber beams and dry-stone courses without mortar for walls over which timber sloping roofs sits is commonly called as:
- (a) Dhajji-Dewari style (b) Taaq system
(c) Mud houses (d) Kath-khuni style
- 84.** Which has high modulus of elasticity also called as Young's modulus?
- (a) Steel (b) Aluminum (c) Tin (d) Wood
- 85.** The carpentry device used as a work holding device where one jaw is fixed to the side of the table while the other is movable by means of the screw plus a handle with the jaws being lined with hard wooden faces is called as:
- (a) Carpenter's bench vice (b) C- clamp
(c) Bar clamp (d) Jack plane
- 86.** For building approvals in Punjab, from one of the compliance report lists, which of the following is a mandatory report?
- (a) Construction technique roadmap
(b) Construction and Demolition (C&D) Waste Management
(c) Alternate energy generation
(d) Site edge management
- 87.** Which of the following are NOT necessarily implications of Transit oriented development?
- i Reduced household driving
ii Reduced environmental performance
iii Reduced air pollution & greenhouse gas emissions
iv Reduced living standards
- (a) i & iii (b) i & ii (c) ii & iv (d) ii & iii
- 88.** GST as applicable on all architectural and engineering services rendered in India shall be:
- (a) 28% (b) 18%
(c) 12% (d) Not applicable
- 89.** In CAD, if a line is drawn between points 2, 5 and -3, 5, its absolute length shall be:
- (a) Four units (b) Five units
(c) One unit (d) Insufficient data

- 90.** A factor that is NOT critical to the success of urbanism is:
- (a) The level of detail at pedestrian scales
 - (b) The expressive style of buildings
 - (c) The shape and position of buildings, and how they shape public space
 - (d) The aesthetic characteristics of streetscapes
- 91.** Match the following component with the related aspect applicable to bamboo construction.
- | | | | |
|---|--------------------|---|---|
| P | Bamboo nodes | 1 | To be avoided in bamboo joinery |
| Q | Cutting bamboo | 2 | Bamboo columns or beams need to have these at both ends |
| R | Conventional nails | 3 | Used when there is no lashing wire available |
| S | Flap joint | 4 | Does not require heavy power tools |
-
- | | | | |
|-----|--------------------|-----|--------------------|
| (a) | P-2, Q-4, R-1, S-3 | (b) | P-3, Q-1, R-4, S-2 |
| (c) | P-2, Q-4, R-3, S-1 | (d) | P-3, Q-2, R-4, S-1 |
- 92.** The term coined by Patrick Geddes implying a large area of urban development that resulted from the merging of originally separate towns or cities such as Greater London, Chicago and NCR is termed as:
- | | | | |
|-----|-------------|-----|-----------------|
| (a) | Conurbation | (b) | Megalopolis |
| (c) | Megapolis | (d) | Satellite towns |
- 93.** Harris Ullman's theory which suggests that large cities develop by the spreading of different activity nodes connected by transport spines is called as:
- | | | | |
|-----|-----------------------|-----|-----------------------|
| (a) | Sector model | (b) | Concentric zone model |
| (c) | Multiple nuclei model | (d) | CBD model |
- 94.** The carpentry joint supposed to be a strong joint requiring considerable skill to make and commonly used in the construction of quality furniture is called as:
- | | | | |
|-----|---------------|-----|--------------------------|
| (a) | Lap joints | (b) | Briddle joints |
| (c) | Dowell joints | (d) | Mortise and Tenon Joints |
- 95.** The 'Modular' developed by Le Corbusier is based on which of the following?
- | | | | |
|-----|---------------------|-----|-----------------------------|
| (a) | Golden ratio or phi | (b) | Fibonacci series of numbers |
| (c) | Both a & b | (d) | Mandala |

- 96.** A thick concrete slab resting on a large area of soil reinforced with steel, supporting columns or walls and transfer loads from the structure to the soil & which is spread over the entire area of the structure it is supporting is called as_____.
- (a) Footing foundation (b) Diaphragm walls
(c) Floating foundation (d) Raft foundation
- 97.** The Munsell color system organizes colors according to:
- (a) Three scales of hue, value, and chroma in a three-dimensional form
(b) Their relationship to the primaries as organized in a circle
(c) Five principle hues and their values on a wheel
(d) The hue and value in a matrix system
- 98.** Which of the following is NOT a method of achieving earthquake resistant structure?
- (a) Base isolation method (b) Soft storey
(c) Seismic dampers (d) Steel plate shear wall
- 99.** A fire sprinkler system is generally laid out as a network of pipes connecting all spaces in the building. Which of the following is NOT a pattern of layout?
- (a) Tree (b) Loop (c) Knot (d) Grid
- 100.** In a linear perspective, a line along which all sets of parallel lines within a plane will appear to converge is called as:
- (a) Vanishing trace (VT) (b) Horizontal plane (HP)
(c) Merging plane (MP) (d) Vanishing point (VPi)

Section-II

- 101.** 'Limits to growth'
- (a) computer simulation of exponential economic and population growth with a finite supply of resources
(b) Study of factors affecting growth of a city
(c) Constraints of provision of infrastructure for growing city
(d) Statistical analysis of city area and requirement of residences for deciding growth of a city
- 102.** In Constitution of India Fundamental duty of citizens to protect environment is ensured through
- (a) Art. 48A (b) Art. 51A(g) (c) Art. 17 (d) Art. 21

- 103.** Which of the following is not responsible for increasing surface -runoff
- i slope
 - ii urbanisation
 - iii land cover
 - iv precipitation
- (a) ii (b) ii & iii
(c) iv (d) none of the above
- 104.** Endogenous processes of landform leads to formation of
- i mountains
 - ii plains
 - iii plateau
 - iv sand dunes
- (a) i (b) i & ii
(c) i, ii & iii (d) All of the above
- 105.** Metropolis is the classification of urban settlement as population
- (a) >50,000 < 1,00,000 (b) >1,00,000 < 5,00,000
(c) >5,00,000 <10,00,000 (d) $\geq 10,00,000$
- 106.** Analytical Hierarchy Process
- i relative weights
 - ii relative ranking
 - iii multiple criteria
 - iv analyzing
- (a) i & ii (b) iii & iv
(c) ii, iii & iv (d) All of the above
- 107.** Cartograms are
- i resize and exaggerate any variable on an attribute value
 - ii thematic mapping
 - iii map distort reality to convey information
 - iv a map on which statistical information is shown in diagrammatic form
- (a) i & iii (b) ii & iii
(c) i, ii & iii (d) all of the above
- 108.** Closed , Dichotomous, Bipolar are types of
- (a) roads (b) infrastructure (c) questionnaire (d) finance

- 109.** Constrictive population pyramid structure is an age structure , in which
- (a) Larger percentage of population is in the younger age group
 - (b) Lower percentage of population is in the younger age group
 - (c) Equal percentage for population in all age groups
 - (d) there is no fixed pattern between different age groups
- 110.** Basic parameters for determining Human Development Index are
- i Life expectancy
 - ii Education
 - iii Per capita income
 - iv Family size
- (a) i & ii
 - (b) i, ii & iii
 - (c) ii & iv
 - (d) All of the above
- 111.** Basic objective of regional planning is
- i Decentralization of power
 - ii Regulate growth of urban areas
 - iii Resource distribution
 - iv Balanced growth
- (a) i & ii
 - (b) ii & iii
 - (c) iii & iv
 - (d) i & iii
- 112.** Model Town and Regional Planning and Development Law, 1962, revised 1985 doesnot have provision of
- (a) preparation of existing land use map
 - (b) preparation of outline Development Plan
 - (c) preparation of detailed schemes of development and redevelopment as per plans
 - (d) preparation of infrastructure Plan
- 113.** OD survey is conducted to
- (a) Locate social infrastructure
 - (b) Develop trip pattern and travel choice scenario
 - (c) Find the length of the road
 - (d) Study human behavior
- 114.** As per Kevin Lynch ,number of elements to build Image of a city are
- (a) 4
 - (b) 5
 - (c) 6
 - (d) 7

- 115.** Information not found in census document
- i Vocational school
 - ii Community health centre
 - iii Tube well
 - iv Common service centres
- (a) i & iv (b) i & iii
(c) iii & iv (d) None of the above
- 116.** Wind-rose gives
- i wind speed
 - ii wind direction
 - iii frequency of winds
 - iv roughness of wind
- (a) i (b) ii
(c) i, ii & iii (d) All of the above
- 117.** Informal settlement has:
- i Residential areas
 - ii Inhabitants have no security of tenure
 - iii Lacks basic services and infrastructure
 - iv May not comply with current planning and building regulations
- (a) i & iii (b) ii & iii
(c) ii, iii & iv (d) all of the above
- 118.** Brundtland Report coined and propagated the term
- (a) Resilience (b) inclusive (c) Sustainability (d) Equity
- 119.** Which of the statement is not True for PERT
- (a) It is a probabilistic model
 - (b) It is a deterministic model
 - (c) Activity time is estimated
 - (d) It may have more than one critical path
- 120.** Transfer of Development Right (TDR) is a
- (a) Government decision to change development priorities
 - (b) System to transfer ownership of land
 - (c) incentive- based program that allows landowners to sell FAR of a plot
 - (d) Right of an individual to decide about development of an area

- 121.** Contour lines merge or cross each other at
 (a) plain surface (b) valley
 (c) plateau (d) overhanging cliff
- 122.** Examples of Renewable energy sources are
 i Biofuel
 ii Hydro power
 iii Geothermal
 iv Tidal Power
 (a) i & ii (b) ii & iii
 (c) none of the above (d) all of the above
- 123.** Bhuvan is a
 (a) Analytical tool (b) Survey system
 (c) Computation software (d) Geo-platform
- 124.** Advocacy planning works on the principles of
 i inclusive
 ii plurastic
 iii represents interest of various groups
 iv capitalism
 (a) i & iii (b) ii & iii
 (c) i, ii & iii (d) all of the above
- 125.** Which Information is not derived from sun-path diagram
 i Annual changes in the path of the sun
 ii Solar intensity
 iii solar altitude
 iv solar Azimuth
 (a) i (b) ii
 (c) iii & iv (d) none of the above
- 126.** ‘HPEC ‘ under headship of chairperson Dr. Isher Judge Ahluwalia , worked for
 (a) urban governance (b) urban management
 (c) urban infrastructure (d) urban environment
- 127.** Gross density includes
 i residential areas
 ii roads
 iii open spaces
 (a) i (b) i & ii
 (c) i & iii (d) All of the above

- 128.** Objective of RERA are
- i protect the interest of customer
 - ii promote fair play in real estate transactions
 - iii ensure timely execution of projects
 - iv offer single window system of clearance for real estate projects
- (a) i & iii (b) ii & iii
(c) i & iv (d) all of the above
- 129.** Environmental guidelines for setting of Industries as per Rules 1999 , considers following factors
- i Highways
 - ii Proximity to water resources
 - iii Major settlement
 - iv Availability of raw material resources
- (a) ii & iii (b) i, ii & iii
(c) ii, iii & iv (d) all of the above
- 130.** URDPFI guidelines, Volume II A contains guidelines for
- (a) Institutional reforms (b) Resource mobilisation
(c) Planning process (d) Legal aspects
- 131.** Millennium development goals were launched in ---- and were ----- in numbers
- (a) 2000, 08 (b) 2000, 17 (c) 2015 , 08 (d) 2015 , 17
- 132.** Population pyramids are
- i Expansive
 - ii constrictive
 - iii stationary
- (a) i (b) I & iii
(c) All of the above (d) None of the above
- 133.** Garbage-can model is
- i irrational model
 - ii decision –making model
 - iii solutions may be proposed even when problems do not exist
 - iv random decision
- (a) i & ii (b) i & iii
(c) i, ii & iii (d) all of the above

- 134.** Thomas Kuhn is associated with
 (a) collaborative theory (b) feminist approach
 (c) Paradigm shift (d) Participatory approach
- 135.** Carrying capacity
 (a) Area that can support one specie
 (b) Largest population of species that a particular area can support
 (c) Load of structures an area can support
 (d) Load of structures soil can support
- 136.** Gutman scalogram is a
 i Cumulative scaling
 ii Ordinal scale
 iii One dimension continuum
 iv Empirical method
 (a) i & ii (b) ii & iii (c) i, ii & iii (d) iii & iv
- 137.** Purpose of Comprehensive Mobility Plan is
 (a) Mobility of all (b) Mobility of vehicles
 (c) Mobility of goods (d) Flow of economy
- 138.** Human population if unchecked grows at a Geometric or Exponential rate
 (a) Malthusian theory (b) Herbert Spencer biological Theory
 (c) Optimum theory of population (d) The demographic transition theory
- 139.** UDPFI guidelines were proposed in ... while URDPFI guidelines were proposed in
 (a) 1996,2012 (b) 1996, 2014 (c) 2002, 2012 (d) 2002, 2014
- 140.** 'Value capture financing is
 (a) public transport facility should be subsidised
 (b) Generated revenue should go back to the development
 (c) the cost of investment should be borne by the government
 (d) people benefiting from public investments in infrastructure should pay for it
- 141.** Medieval period towns were
 i Narrow streets
 ii Towns surrounded by moats
 iii Grid-iron pattern of roads
 iv Ir-regular streets
 (a) i & ii (b) ii & iii (c) ii & iv (d) i, ii & iv

- 142.** Intergovernmental Panel on Climate change is to
- (a) Decide systems to address climate change
 - (b) Facilitates Climate change negotiations
 - (c) Assessing the science related to climate change
 - (d) Controls action for climate change mitigation
- 143.** Sequentially arrange the following as per four stage model for transportation planning
- i Trip generation
 - ii Mode choice
 - iii Trip distribution
 - iv Route choice
- (a) i,ii,iv,iii (b) i,iii,ii,iv (c) i,iv,ii,iii (d) i,iii,iv,ii
- 144.** Peri-Urban area
- i rural area abutting urban settlement
 - ii characterized by organic growth
 - iii controlled by municipality
 - iv transitional area
- (a) i & ii (b) i, ii & iii
(c) i, ii & iv (d) All of the above
- 145.** Mesolithic age
- (a) acquired the skill to develop crude tools
 - (b) dependent on technology
 - (c) Transition from food-gathering to food-producing
 - (d) Adopted agriculture
- 146.** URDPFI guidelines are for
- i Core Area planning
 - ii Specific and investment planning
 - iii participatory consultative approach
- (a) i (b) ii
(c) ii & iii (d) all of the above
- 147.** Non-spatial data refers to
- (a) Hypothetical figures
 - (b) projected information
 - (c) calibrated set of details
 - (d) dataset that cannot be related to a location on earth

- 148.** Urbanism is
- (a) the way of life characteristic of cities and towns
 - (b) Level of development
 - (c) Scale of infrastructure
 - (d) Density of population
- 149.** SPSS is
- (a) analytical tool
 - (b) empirical tool
 - (c) survey tool
 - (d) evaluation tool
- 150.** Hachure's lines are for
- (a) Strokes drawn in the direction of the steepest slope
 - (b) Strokes drawn in the direction of the gradual slope
 - (c) Strokes drawn in the direction of the higher gradient
 - (d) Strokes drawn in the direction of the gradual gradient
- 151.** Political Economy refers to
- (a) Funds used in conducting of elections and other political activities
 - (b) Relation of production and trade with law , custom and government
 - (c) Funds collected by political parties
 - (d) Norms and Acts to frame guidelines for growth
- 152.** 'Saturation Flow' is
- (a) Volume of water in drain
 - (b) maximum rate of flow of traffic
 - (c) runoff on roads
 - (d) capacity of a septic tank
- 153.** It does not come under controls of CRZ , within stipulated distance
- i Manufacturing hazardous substance
 - ii Discharge of untreated waste from settlements
 - iii Dumping of waste from Thermal power stations
 - iv Land reclamation
- (a) i
 - (b) ii
 - (c) Iv
 - (d) None of the above
- 154.** Formal , functional , vernacular are
- (a) Types of economies
 - (b) Regional classifications
 - (c) Types of roads
 - (d) Building classifications

- 155.** 'Not in my backyard' is a concept referring to
- (a) Resists unwanted development
 - (b) Resists Back to back residential development
 - (c) Resists planting of trees in backyard
 - (d) Resists provision of backyards
- 156.** Gedidian triangle is a relationship of
- (a) work, people, money
 - (b) Man, shell, network
 - (c) People, communication, economy
 - (d) work, folk, place
- 157.** Method of formal Region delineation
- (a) Weighted index number method
 - (b) Gravitational analysis
 - (c) regression
 - (d) flow analysis
- 158.** A town with a population of 40,000 has an average household size of 4.0 . The number of occupied dwelling units is 9,000 of which 10% are in a dilapidated conditions . The housing demand of the town is :
- (a) 1700
 - (b) 1900
 - (c) 2400
 - (d) 2600
- 159.** Ernest Burgess gave
- (a) Concentric zone model
 - (b) Sector theory
 - (c) Multiple nuclei model
 - (d) Isolate estate model
- 160.** Bequest Value
- (a) Charges for development of an area with state of art infrastructure
 - (b) willingness to pay for preserving the environment in a given state for the benefit of the future generation
 - (c) Value of attaining the best
 - (d) Hidden value of benefits received with the use of technology
- 161.** SLEUTH model helps in
- (a) Assessing Infrastructure requirement
 - (b) urban growth modeling
 - (c) population growth modeling
 - (d) location of activities
- 162.** Likert scale
- (a) represent people's attitude to a topic
 - (b) Multi-polar scaling method
 - (c) Instrument for recording spatial details
 - (d) Identifying gap between information

- 163.** Example of choropleth map
- i Population density map
 - ii Per-capita income map
 - iii Infrastructure layout map
 - iv Land-use map
- (a) i (b) i & ii
(c) iii & iv (d) All of the above
- 164.** Greek towns
- (a) main roads converging to marketplace or temple
 - (b) large urban spaces
 - (c) monumental streets
 - (d) massive structures
- 165.** Public participation in planning is the process of consulting
- i affected individuals
 - ii affected organisations
 - iii government entities
 - iv anonymous
- (a) i & ii (b) i & iii
(c) i, ii & iii (d) all of the above
- 166.** ‘City as a living Organism’ is the thought supported by
- (a) August Losch (b) Patrick Geddes
 - (c) Gunnar mydral (d) Francois Perroux
- 167.** Following is not a source of error in land surveying
- (a) Instrumental error (b) environmental error
 - (c) natural error (d) Personal error
- 168.** NSSO is a
- (a) Statistical handbook (b) Open Government Data Platform
 - (c) Planning guidelines (d) Regulating authority

169. Ecosystem provides following services

- i provisioning
- ii Regulating
- iii supporting
- iv cultural

- (a) i (b) i & ii
(c) i,ii & iii (d) all of the above

170. Urban settlements fulfill following criteria

- i Population > 5000
- ii Population > 10000
- iii 75% population involved in non-agrarian activities
- iv 75% of male working force involved in non-agrarian activities

- (a) i & iii (b) i & iv (c) ii & iii (d) ii & iv
