

CII – iPATE 2.0 (2021)

Computer Based PAN India Examination

Category: GRADUATE ENGINEER (ENTRY LEVEL)

Engineering Discipline: ARCHITECTURE & PLANNING

Questions & Answers

(Reviewed, Revised & Published dtd. 26.11.2021)

Paper Structure

| Question Nos. | Sections & Topics | | Marks |
|---------------|--|---|------------|
| 1 to 20 | Section I : Cognitive Abilities | <ul style="list-style-type: none">Quantitative AptitudeAnalytical ReasoningData InterpretationEnglish Communication | 20 |
| 21 to 40 | Section II : Professional Abilities | <ul style="list-style-type: none">Project ManagementHealth, Safety & Risk ManagementEnvironmental LawsSocial Responsibility & EthicsFinance & AccountsLegal, Contracts & Arbitration | 20 |
| 41 to 50 | Section III (A) : Technical Abilities | Physics & Chemistry (10+2 level) | 10 |
| 51 to 100 | Section III (B) : Technical Abilities | Engineering Discipline | 50 |
| TOTAL | | | 100 |

NOTE:

- Exam Duration: 3 Hours
- Total 100 no. of Questions of 1 Mark each with Negative Marking of ½ Mark for every wrong answer
- Questions (Section wise) and respective Answer Options shuffled at Candidates' terminal

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|----------------|---|----|----|----|
| Question No. 1 | Discriminant of a second-degree polynomial with integer coefficients cannot be: | | | |
| Answer Options | A) | B) | C) | D) |
| | 43 | 33 | 68 | 25 |
| Right Answer | A | | | |

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|----------------|--|-----|-----|-----|
| Question No. 2 | How many subsets A of {1, 2, 3, 4, 5, 6, 7, 8, 9, and 10} have the property that no two elements of A sum to 11? | | | |
| Answer Options | A) | B) | C) | D) |
| | 1024 | 512 | 343 | 243 |
| Right Answer | C | | | |

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|----------------|---|---------------|------------|-----------|
| Question No. 3 | Viru and Aarti started a car journey from Chandigarh to Delhi, which are 288 km apart. Viru took 12 hours more than Aarti to complete the journey. Had Viru travelled at double his actual speed, he would have taken 4 hours less than Aarti to complete the journey. Find the respective speeds (in km/hr) at which Viru and Aarti travelled. | | | |
| Answer Options | A) | B) | C) | D) |
| | 14.4 and 9 | 14.5 and 28.5 | 9 and 14.4 | 15 and 20 |
| Right Answer | C | | | |

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|----------------|--|--------------------|-------------------|---------------|
| Question No. 4 | The height of a trapezoid whose diagonals are mutually perpendicular is equal to 4. Find the area of the trapezoid if it is known that the length of one of its diagonals is equal to 5. | | | |
| Answer Options | A) | B) | C) | D) |
| | 50/3 square units | 100/3 square units | 16/6 square units | None of these |
| Right Answer | A | | | |

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|----------------|---|-------|-------|-------|
| Question No. 5 | A polyhedron has faces that are all either triangles or squares. No two square-faces share an edge, and no two triangular-faces share an edge. What is the ratio of triangular-faces to the number of square-faces? | | | |
| Answer Options | A) | B) | C) | D) |
| | 03:04 | 04:03 | 01:02 | 04:05 |
| Right Answer | B | | | |

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|----------------|---|--|-------------------------------------|--------------|
| Question No. 6 | Your mind likes reading and it actually has a number of important health affects you can't get in any other way. Reading gives you a unique "pause button" for comprehension. Typically, when you read, you have more time to think. When you watch a film or listen to a tape, you don't press that pause button. Reading requires a great deal of concentration, which calls your intelligence to action. The author of this passage would agree that: | | | |
| Answer Options | A) | B) | C) | D) |
| | Reading is a good way to relax, since it doesn't require that much thinking. | Watching a movie has the same effect on the intelligence as reading. | Reading develops your intelligence. | Both A and C |
| Right Answer | C | | | |

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|----------------|--|------|-------|-------|
| Question No. 7 | Read the following information carefully and answer the question given below. P stands 5m west of R. T stands 5m south of Q. T stands 6m east of U. V stands 2m west of Q. A stands 2m south of U. V stands 3m north of R. If G stands 7m east of P, then in which direction does G stands with respect to T? | | | |
| Answer Options | A) | B) | C) | D) |
| | West | East | South | North |
| Right Answer | D | | | |

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|----------------|--|--|--|---|
| Question No. 8 | The French Revolution began in 1789 and ended in the late 1790s with the ascent of Napoleon Bonaparte. During this period, French citizens razed and redesigned their country's political landscape, uprooting centuries-old institutions such as absolute monarchy and the feudal system. Like the American Revolution before it, the French Revolution was influenced by Enlightenment ideals, particularly the concepts of popular sovereignty and inalienable rights. From this passage it can be concluded that: | | | |
| Answer Options | A) | B) | C) | D) |
| | The French revolution began before the Russian Revolution. | In the French Revolution their monarch was killed. | The American Revolution happened before the French Revolution. | Napoleon initiated the French Revolution. |
| Right Answer | C | | | |

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|----------------|---|-----------------|-----------------|-----------------|
| Question No. 9 | A, B, C, D and E are sitting on a bench. A is sitting next to B, C is sitting next to D, D is not sitting with E who is on the left end of the bench. C is on the second position from the right. A is to the right of B and E. A and C are sitting together. In which position A is sitting? | | | |
| Answer Options | A) | B) | C) | D) |
| | Between B and C | Between E and D | Between B and D | Between C and E |
| Right Answer | A | | | |

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|-----------------|--|----|----|----|
| Question No. 10 | A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the right of P? | | | |
| Answer Options | A) | B) | C) | D) |
| | X | Z | S | A |
| Right Answer | A | | | |

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|-----------------|---|----------|---------|---------|
| Question No. 11 | In the following question choose the word which is the exact OPPOSITE of the given word. STRINGENT | | | |
| Answer Options | A) | B) | C) | D) |
| | Magnanimous | Vehement | General | Lenient |
| Right Answer | D | | | |

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|-----------------|--|-----------------------------|-----------------------|--|
| Question No. 12 | Some proverbs/idioms are given below together with their meanings. Choose the correct meaning of proverb/idiom. To catch a tartar | | | |
| Answer Options | A) | B) | C) | D) |
| | To trap wanted criminal with great difficulty | To catch a dangerous person | To meet with disaster | To deal with a person who is more than one's match |
| Right Answer | D | | | |

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|-----------------|--|--------------|-------------|--------------|
| Question No. 13 | Which of the phrases A), B), C) and D) given below each sentence should replace the word/phrase printed in bold in the sentence to make it grammatically correct? If the sentence is correct as it is given and no correction is required, mark (E) as the answer. Since the girl did not want to be disturbed while studying, she left the phone off hooks. | | | |
| Answer Options | A) | B) | C) | D) |
| | of hook | for the hook | off hooking | off the hook |
| Right Answer | D | | | |

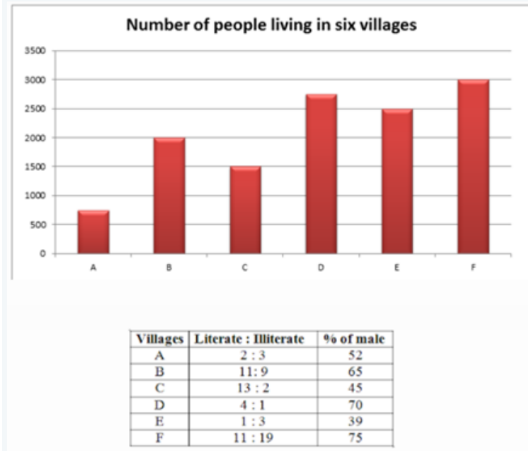
| | | | | |
|-----------------|--|---------|-----------|--------|
| Question No. 14 | In the following question choose the word which is the exact OPPOSITE of the given word. FICKLE | | | |
| Answer Options | A) | B) | C) | D) |
| | Courageous | Sincere | Steadfast | Humble |
| Right Answer | C | | | |

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|-----------------|--|------|------|------|
| Question No. 15 | <p>In question below, the passage consists of six sentences. The first and sixth sentence are given in the correct places. The middle four sentences in each have been removed and jumbled up. These are labelled as P, Q, R and S. Find out the proper order for the four sentences.</p> <p>S1: In the middle of one side of the square sits the Chairman of the committee, the most important person in the room.</p> <p>P: For a committee is not just a mere collection of individuals.</p> <p>Q: On him rests much of the responsibility for the success or failure of the committee.</p> <p>R: While this is happening, we have an opportunity to get the 'feel' of this committee.</p> <p>S: As the meeting opens, he runs briskly through a number of formalities.</p> <p>S6: From the moment its members meet, it begins to have a sort nebulous life of its own.</p> <p>The Proper sequence should be:</p> | | | |
| Answer Options | A) | B) | C) | D) |
| | RSQP | QSRP | SQPR | PQRS |
| Right Answer | B | | | |

Question
No. 16

Question nos. 16 to 20:

Following bar chart represents the number of people in 6 different villages (A, B, C, D, E and F) and the tabular column depicts the ratio of literate to illiterate people and percentage of male living in those villages.



If 40% of the female from village B is literate, then what is the percentage of male, who is illiterate from village B?

Answer
Options

| | | | |
|-----|-----|-----|----------------------|
| A) | B) | C) | D) |
| 38% | 35% | 37% | cannot be determined |

Right
Answer

C

Question
No. 17

What is the percentage of literate people in all the six villages together?

Answer
Options

| | | | |
|-----|-----|-----|----------------------|
| A) | B) | C) | D) |
| 55% | 53% | 51% | cannot be determined |

Right
Answer

B

Question
No. 18

What is the ratio between numbers of illiterate people from villages B, C & D to number of females from villages A, E & F?

Answer
Options

| | | | |
|---------|---------|---------|---------|
| A) | B) | C) | D) |
| 320:527 | 527:330 | 330:527 | 527:320 |

Right
Answer

C

Question
No. 19

If 3% of female from village D & 5% of female from village E are literate then what is the total number of literate males from D & F together?

Answer
Options

| | | | |
|------|------|------|----------------------|
| A) | B) | C) | D) |
| 1823 | 1723 | 1623 | cannot be determined |

Right
Answer

D

Question
No. 20

The number of females from villages A & C is how much percentage more or less than number of females from villages D & F?

Answer
Options

| | | | |
|--------|--------|--------|--------|
| A) | B) | C) | D) |
| 25.72% | 25.76% | 24.76% | 24.72% |

Right
Answer

C

| | | | | |
|-----------------|---|---------------------|-------------------|------------------|
| Question No. 21 | A project plan results in a project schedule seems to be too long. If the project network diagram cannot change but extra personnel resources is available, what is the best thing to do? | | | |
| Answer Options | A) | B) | C) | D) |
| | Fast track the project | Level the resources | Crash the project | Any other option |
| Right Answer | C | | | |

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|-----------------|---|---|---|-------------------------------------|
| Question No. 22 | Which of the following is not Project Management's goal | | | |
| Answer Options | A) | B) | C) | D) |
| | Keeping overall cost within the budget | Delivering the project/goods to the client at agreed time | Maintaining a satisfactory and well-functioning development | Avoiding customer/client complaints |
| Right Answer | D | | | |

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|-----------------|---|--------------------|-----------------|-----------------|
| Question No. 23 | You have recently been named as Project Manager of a new project under a Contract. The Project Management Unit (PMU) gave you the contract signed by the Customer and a Statement of Work and asked you to go on with initiation. Which document should you develop next? | | | |
| Answer Options | A) | B) | C) | D) |
| | Project Manager Plan | Milestone Schedule | Project Charter | Scope Statement |
| Right Answer | C | | | |

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|-----------------|---|------------------|-----------------|------------|
| Question No. 24 | The analysis tool for a quality problem that involves selecting the problem, identifying major categories of potential causes and associating likely specific causes is | | | |
| Answer Options | A) | B) | C) | D) |
| | Pareto chart | Fishbone diagram | Scatter diagram | Check list |
| Right Answer | B | | | |

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|-----------------|---|--------|--------|-------|
| Question No. 25 | The Occupational Safety & Health Administration requires employers to have Hearing Conservation Plans if the average 8-hour noise exposure is more than | | | |
| Answer Options | A) | B) | C) | D) |
| | 1000 dB | 500 dB | 105 dB | 85 dB |
| Right Answer | D | | | |

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|-----------------|--|--------|---------|----------|
| Question No. 26 | Ammonia becomes an immediate danger to your life and health when it is present at the following level or greater | | | |
| Answer Options | A) | B) | C) | D) |
| | 10 ppm | 30 ppm | 300 ppm | 1000 ppm |
| Right Answer | C | | | |

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|-----------------|--|---------------------------|-----------------|------------------|
| Question No. 27 | Exposure to high levels of noise can lead to which of the following: | | | |
| Answer Options | A) | B) | C) | D) |
| | High blood pressure | Gastrointestinal problems | Chronic fatigue | All of the above |
| Right Answer | D | | | |

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|-----------------|---|--------------------------------|----------------------------|--|
| Question No. 28 | Which type of fire extinguishing system is most commonly used to protect areas containing valuable equipment such as data processing rooms, telecommunications switches, and process control rooms? | | | |
| Answer Options | A) | B) | C) | D) |
| | Fixed extinguishing systems | Portable extinguishing systems | Hose extinguishing systems | It's up to the discretion the employer |
| Right Answer | A | | | |

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|-----------------|--|--|--|------------------|
| Question No. 29 | If you need to wear glasses with your eye or face protection, which of the following options is acceptable | | | |
| Answer Options | A) | B) | C) | D) |
| | Wearing prescription spectacles with side shields and protective lenses that meet safety requirements and also correct your vision | Wearing goggles that fit comfortably over your glasses | Wearing goggles that have corrective lenses mounted behind the protective lenses | All of the above |
| Right Answer | D | | | |

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|-----------------|--|------------|------------|-----------|
| Question No. 30 | Under which Section of Environment Pollution Act, the CPCB can issue the directions directly to industries | | | |
| Answer Options | A) | B) | C) | D) |
| | Section 16 | Section 18 | Section 11 | Section 5 |
| Right Answer | D | | | |

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|-----------------|--|----------|-----------|-----------|
| Question No. 31 | Which of these divisions of Pollution Control Implementation deals with Air Polluting Industries | | | |
| Answer Options | A) | B) | C) | D) |
| | PCI - I | PCI - II | PCI - III | SSI & Law |
| Right Answer | B | | | |

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|-----------------|--|------|------|------|
| Question No. 32 | The Kyoto Protocol is an international treaty which extends the United Nations Framework Convention on Climate Change (UNFCCC). In which year the convention held? | | | |
| Answer Options | A) | B) | C) | D) |
| | 1987 | 1995 | 1992 | 1997 |
| Right Answer | C | | | |

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|-----------------|--|--|--|---|
| Question No. 33 | What is the harm from manipulation of Earth's Ozone layer? | | | |
| Answer Options | A) | B) | C) | D) |
| | The average temperature of Earth's surface will increase gradually | The Oxygen content of the atmosphere will decrease | Increased amount of Ultraviolet radiation will reach earth's surface | Sea level will rise as the polar ice caps will gradually melt |
| Right Answer | C | | | |

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|-----------------|--|---------------------------|------------------------------|-----------------------------------|
| Question No. 34 | Which of the following would not represent the cash outflows for the business? | | | |
| Answer Options | A) | B) | C) | D) |
| | Purchase of building for cash | The sale of land for cash | Retirement of long-term debt | The payment of cash for dividends |
| Right Answer | B | | | |

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|-----------------|---|-----------|------|-----------|
| Question No. 35 | Which one of the following tangible fixed assets would not normally be depreciated? | | | |
| Answer Options | A) | B) | C) | D) |
| | Buildings | Machinery | Land | Equipment |
| Right Answer | C | | | |

| | | | | |
|-----------------|---------------------------|----------------------------|----------------------------------|----------------------------|
| Question No. 36 | A Profit is earned if? | | | |
| Answer Options | A) | B) | C) | D) |
| | Assets exceed Expenditure | Income exceeds Expenditure | Cash Inflow exceeds Cash Outflow | Income exceeds Liabilities |
| Right Answer | B | | | |

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|-----------------|--|--------------|------------------------------|------------------------|
| Question No. 37 | Which of the following budgets is normally prepared first? | | | |
| Answer Options | A) | B) | C) | D) |
| | Cash budget | Sales budget | Merchandise purchases budget | Selling expense budget |
| Right Answer | B | | | |

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|-----------------|--|--|--|--|
| Question No. 38 | What is the correct sequence in the formation of a contract? | | | |
| Answer Options | A) | B) | C) | D) |
| | Offer, acceptance, agreement, consideration. | Agreement, consideration, offer, acceptance. | Offer, agreement, consideration, acceptance. | Offer, acceptance, consideration, agreement. |
| Right Answer | D | | | |

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|-----------------|--|---|---|---|
| Question No. 39 | Which of the following answers is most accurate description of arbitration? | | | |
| Answer Options | A) | B) | C) | D) |
| | An informal meeting between the parties involving a discussion to sort out the dispute | An adjudicative process where the parties submit their disputes for a binding decision to an impartial tribunal | A meeting between the parties where an impartial third party gives decision | An impartial umpire selected to decide after hearing the dispute from parties |
| Right Answer | B | | | |

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|-----------------|---|-------------------|--------------|-----------|
| Question No. 40 | Which of the following answers is not type of alternative dispute resolution? | | | |
| Answer Options | A) | B) | C) | D) |
| | Arbitration | Court proceedings | Conciliation | Mediation |
| Right Answer | B | | | |

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|-----------------|---|------------------------------|----------------------------|-------------------------------|
| Question No. 41 | The equation of state for n moles of an ideal gas is $PV = nRT$, where R is the universal gas constant and all other quantities have their usual meanings. What are the dimensions of R? | | | |
| Answer Options | A) | B) | C) | D) |
| | $M^0L^2T^{-2}K^{-1}mol^{-1}$ | $M^0L^2T^{-2}K^{-1}mol^{-1}$ | $ML^2T^{-2}K^{-1}mol^{-1}$ | $ML^{-2}T^{-2}K^{-1}mol^{-1}$ |
| Right Answer | C | | | |

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|-----------------|---|------|------|-----|
| Question No. 42 | A cylindrical tube open at both ends has fundamental frequency n. If one of the ends is closed, the fundamental frequency will become | | | |
| Answer Options | A) | B) | C) | D) |
| | $n/2$ | $2n$ | $4n$ | n |
| Right Answer | A | | | |

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|-----------------|--|-----|--------------|--------------|
| Question No. 43 | The speed of sound in a gas is V and the root mean square speed of the gas molecules is V_{rms} . If the ratio of the specific heats of the gas is 1.5, then the ratio of V: V_{rms} will be | | | |
| Answer Options | A) | B) | C) | D) |
| | 1:2 | 1:3 | $1:\sqrt{2}$ | $1:\sqrt{3}$ |
| Right Answer | C | | | |

| | | | | |
|-----------------|---|-----------|-------------|--------------|
| Question No. 44 | Which of the following phenomena gives evidence of the molecular structure of the matter? | | | |
| Answer Options | A) | B) | C) | D) |
| | Brownian motion | Diffusion | Evaporation | All of these |
| Right Answer | D | | | |

| | | | | |
|-----------------|--|-------------------------|-------------------------|-------------------------|
| Question No. 45 | Starting with the same initial conditions, an ideal gas expands from volume V_1 to V_2 in three different ways. The work done by the gas is W_1 if the process is purely isobaric, W_2 if the process is purely isochoric and W_3 if the process is purely adiabatic. Then | | | |
| Answer Options | A) $W_1 > W_2 > W_3$ | B) $W_2 > W_1 > W_3$ | C) $W_1 > W_3 > W_2$ | D) $W_3 > W_1 > W_2$ |
| Right Answer | C | | | |

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|-----------------|--|-----------|-----------|---|
| Question No. 46 | A vessel contains a mixture of 1 mole of oxygen and two moles of nitrogen at 300K. The ratio of the rotational kinetic energy per O_2 molecule to that per N_2 molecule is | | | |
| Answer Options | A) 1:1 | B) 1:2 | C) 2:1 | D) Depends on the moment of inertia of the two molecules |
| Right Answer | A | | | |

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|-----------------|--|------------------------|---------------------|----------------------------|
| Question No. 47 | In a test experiment on a model aeroplane in a wind tunnel, the flow speeds on the lower and upper surfaces of the wing are v and $\sqrt{2}v$ respectively. If the density of air is ρ and the surface area of the wing is A , the dynamic lift on the wing is given by | | | |
| Answer Options | A) $(\rho v^2 A)/\sqrt{2}$ | B) $(\rho v^2 A)/2$ | C) $2\rho v^2 A$ | D) $\sqrt{2}\rho v^2 A$ |
| Right Answer | B | | | |

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|-----------------|---|-------------------------|-------------------------|-------------------------|
| Question No. 48 | A boy whirls a stone in a horizontal circle 2m above the ground by means of a string 1.25m long. The string breaks and the stone flies off horizontally, striking the ground 10m away. What is the magnitude of the centripetal acceleration during circular motion? (Take $g=10\text{m/s}^2$) | | | |
| Answer Options | A) 400m/s^2 | B) 300m/s^2 | C) 200m/s^2 | D) 100m/s^2 |
| Right Answer | C | | | |

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|-----------------|--|-----------|-----------|---------|
| Question No. 49 | Radium (with Atomic no. = 87, Mass No. = 221) undergoes radioactive decay with a half-life of 4 days. The probability that a Ra nucleus will disintegrate in 8 days is | | | |
| Answer Options | A) 1/4 | B) 3/4 | C) 1/2 | D) 1 |
| Right Answer | B | | | |

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|-----------------|--|---------------|-----------|-------------|
| Question No. 50 | A tunnel is dug along the diameter of the earth. An object is held in the tunnel at a distance x from the centre of the earth. The magnitude of the gravitational force on the object is proportional to | | | |
| Answer Options | A) $1/x$ | B) $1/x^2$ | C) x | D) x^2 |
| Right Answer | C | | | |

| | | | | |
|-----------------|---|--------|---------|----------|
| Question No. 51 | As per IS specifications, the maximum final setting time for ordinary Portland cement should be ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 30 minutes | 1 hour | 6 hours | 10 hours |
| Right Answer | D | | | |

| | | | | |
|-----------------|--|-----|------|-------|
| Question No. 52 | Which of the following is a housing sector development scheme? | | | |
| Answer Options | A) | B) | C) | D) |
| | HRIDAY | SBM | PMAY | AMRUT |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|--------------------|---------------|---|
| Question No. 53 | Toothing is a construction technique used in ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Wood construction | Steel construction | Brick masonry | Reinforced cement concrete construction |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|-----------------|-----------------|----------------|
| Question No. 54 | 'Indore Slum Networking Programme' has been planned by ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | B. V. Doshi | Dulal Mukherjee | Himanshu Parikh | Charles Correa |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|-----------------|-----------------|-------------------|
| Question No. 55 | In the case of large floor and roof coverings using Prestressed concrete as material, one of the structural forms for adoption is? | | | |
| Answer Options | A) | B) | C) | D) |
| | Concrete panels | Reinforced disc | Spherical domes | Trapezoidal domes |
| Right Answer | C | | | |

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|-----------------|---|--------------------------|------------------------|-------------|
| Question No. 56 | This type of projection is when projectors are parallel to each other, but are at an angle other than 90 degrees to the plane of projection | | | |
| Answer Options | A) | B) | C) | D) |
| | Oblique projection | Perpendicular projection | Perspective projection | Axonometric |
| Right Answer | A | | | |

| | | | | |
|-----------------|--|-----------------------------------|---|---|
| Question No. 57 | Which of the following would be most appropriate for a high-rise building in a high-risk seismic zone? | | | |
| Answer Options | A) | B) | C) | D) |
| | A building on stilts | A building with a U - shaped plan | A building with a symmetrical T-shaped plan | A building with a symmetrical square plan |
| Right Answer | D | | | |

| | | | | |
|-----------------|---|-----|-----|-----|
| Question No. 58 | Poor lime contains more than _____ of clay. | | | |
| Answer Options | A) | B) | C) | D) |
| | 15% | 20% | 25% | 30% |
| Right Answer | D | | | |

| | | | | |
|-----------------|---|-----|-----|-----|
| Question No. 59 | Rat-trap bond masonry requires _____ less mortar. | | | |
| Answer Options | A) | B) | C) | D) |
| | 20% | 30% | 40% | 50% |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|----|----|-----|
| Question No. 60 | Tsunami detectors are placed in sea at _____ kms from shore. | | | |
| Answer Options | A) | B) | C) | D) |
| | 50 | 60 | 75 | 100 |
| Right Answer | A | | | |

| | | | | |
|-----------------|---|-------------|------------------------|-------------|
| Question No. 61 | Which of the following formats is used in limit state method? | | | |
| Answer Options | A) | B) | C) | D) |
| | Single safety factor | Load factor | Multiple safety factor | Wind factor |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|------------|-------------|---------------|
| Question No. 62 | Generally, the predominant urban land use category in a city is -----. | | | |
| Answer Options | A) | B) | C) | D) |
| | Transportation | Commercial | Residential | Institutional |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|----|----|----|
| Question No. 63 | What will be the number of lamps, each having 300 lumens, required to obtain an average illuminance of 60 lux on a 5m × 3m rectangular room? | | | |
| Answer Options | A) | B) | C) | D) |
| | 3 | 4 | 6 | 8 |
| Right Answer | A | | | |

| | | | | |
|-----------------|---|-------------------------|------------------|----------------------|
| Question No. 64 | Star Rating of an Air Conditioner is determined by its _____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Power Consumption | Energy Efficiency Ratio | Cooling Capacity | Power of Compression |
| Right Answer | B | | | |

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|-----------------|---|--|--|-------------------------------------|
| Question No. 65 | What is the first thing that happens to wastewater at a wastewater treatment plant? | | | |
| Answer Options | A) | B) | C) | D) |
| | treatment with chlorine or ultraviolet light to kill pathogens | liquid wastewater is mixed with air to help bacteria breakdown small particles of solid material | scum and sludge are separated from the liquid wastewater | large solid things are screened out |
| Right Answer | D | | | |

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|-----------------|---|-------------|-------------|------------|
| Question No. 66 | The temporary hardness of water can be removed by ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Boiling | Adding lime | Adding alum | Filtration |
| Right Answer | A | | | |

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|-----------------|---|-------|-------|-------|
| Question No. 67 | Criteria for background noise (in NC) in Restaurants is ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 25-30 | 30-45 | 35-40 | 40-45 |
| Right Answer | D | | | |

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|-----------------|---|--------------|-------------------|--------------------|
| Question No. 68 | Which type of parking is convenient for all types of users? | | | |
| Answer Options | A) | B) | C) | D) |
| | Parallel parking | Kerb parking | 90-degree parking | Off-street parking |
| Right Answer | C | | | |

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|-----------------|--|------|------|------|
| Question No. 69 | While considering the design of R.C. buildings for providing ductility, the minimum grade of concrete limited by the Indian Code is _____. | | | |
| Answer Options | A) | B) | C) | D) |
| | M 10 | M 20 | M 35 | M 50 |
| Right Answer | B | | | |

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|-----------------|---|-----------------------|-----------------------|-----------------------|
| Question No. 70 | When sunlight falls normally on Earth, a luminous flux of 1.57×10^5 lumen/m ² is produced on Earth. The distance of Earth from Sun is 1.5×10^8 km. The luminous intensity of Sun in candela will be _____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 3.53×10^{27} | 3.53×10^{25} | 3.53×10^{22} | 3.53×10^{28} |
| Right Answer | A | | | |

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|-----------------|--|---------------|---------------|---------------|
| Question No. 71 | What is the carpet area prescribed by the government of India for a housing unit for EWS category? | | | |
| Answer Options | A) | B) | C) | D) |
| | Up to 30 sqm | Up to 45 sq m | Up to 60 sq m | Up to 75 sq m |
| Right Answer | A | | | |

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|-----------------|--|------------|-----------------------|------------|
| Question No. 72 | The transmission of sound from one room to an adjacent room, via common walls, floors or ceilings is called _____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Reverberation | Refraction | Flanking transmission | Reflection |
| Right Answer | C | | | |

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|-----------------|---|---|--|--|
| Question No. 73 | The concept of Transit Oriented Development (TOD) refers to | | | |
| Answer Options | A) | B) | C) | D) |
| | Orienting residential blocks towards the transit in a gated community | Transit oriented planning in institutional campuses | Spatial design for persons with disabilities along a mass transit corridor | High density development along a mass transit corridor |
| Right Answer | D | | | |

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|-----------------|--|------------|-------|-------|
| Question No. 74 | 'Finger Plan' concept of urban planning was initially adopted in ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Canberra | Copenhagen | Paris | Tokyo |
| Right Answer | B | | | |

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|-----------------|---|---------------------|---------------|---------------------|
| Question No. 75 | Which of the following is a form of informal housing? | | | |
| Answer Options | A) | B) | C) | D) |
| | Apartments | Squatter Settlement | Group Housing | Cooperative Housing |
| Right Answer | B | | | |

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|-----------------|---|-----|-----|---------------|
| Question No. 76 | Rajiv Awas Yojana of Ministry of Housing, Government of India addresses housing for ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | LIG | MIG | HIG | Slum Dwellers |
| Right Answer | D | | | |

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|-----------------|--|-------|-------|-------|
| Question No. 77 | A room of size 150 m ² is illuminated by 20 lamps of 40 W having a luminous efficacy of 50 lm/W. Total flux emitted by the lamps in lumens would be ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 10000 | 20000 | 30000 | 40000 |
| Right Answer | D | | | |

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|-----------------|---|------------|------------|------------|
| Question No. 78 | Arrange the following in ascending order of width P. Collector Street Q. Arterial Road R. Local Street S. Sub-Arterial Road | | | |
| Answer Options | A) | B) | C) | D) |
| | Q, S, R, P | P, Q, S, R | Q, S, P, R | R, P, S, Q |
| Right Answer | D | | | |

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|-----------------|--|------------------|--------------------|---------------------|
| Question No. 79 | 'Segregation at source' is a concept associated with ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Solid waste management | Water management | Traffic management | Disaster management |
| Right Answer | A | | | |

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|-----------------|---|----|----|----|
| Question No. 80 | The diagonal scales are used when measurements are required in ____ units | | | |
| Answer Options | A) | B) | C) | D) |
| | 1 | 2 | 3 | 4 |
| Right Answer | C | | | |

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|-----------------|--|-------------------------|------------------------|--------------------|
| Question No. 81 | One of the types of Map projections is ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Isometric projection | Orthographic projection | Axonometric projection | Oblique projection |
| Right Answer | B | | | |

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|-----------------|--|--|---|--|
| Question No. 82 | The urban development program 'HRIDAY' of Government of India stands for ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Heritage Rejuvenation Implementation Development Aayog Yojana | Heritage Review Implementation Development Augmentation Yojana | Heritage City Development and Augmentation Yojana | Heritage City Improvement and Development Aawas Yojana |
| Right Answer | C | | | |

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|-----------------|--|--------------------|----------------|-----------------|
| Question No. 83 | In order to secure superstructure from an earthquake _____ technique is most preferred and used worldwide. | | | |
| Answer Options | A) | B) | C) | D) |
| | Reinforcement | Energy Dissipation | Base Isolation | Seismic Dampers |
| Right Answer | C | | | |

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|-----------------|--|----------|---------------------------|-------|
| Question No. 84 | Which of the following is called the core of a city? | | | |
| Answer Options | A) | B) | C) | D) |
| | Sector | District | Central business district | Nodes |
| Right Answer | C | | | |

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|-----------------|---|--------------|---------------|------------|
| Question No. 85 | The concept of 'Serial Vision' is a visual approach to urban design first introduced by ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Kevin Lynch | Le Corbusier | Gordon Cullen | Louis Kahn |
| Right Answer | C | | | |

| | | | | |
|-----------------|--|---|--|---|
| Question No. 86 | Representative fraction' (RF) is defined as ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Length of an object in the drawing / Actual length of the object | Length of an object in the drawing / Isometric length of the object | Actual length of the object / Length of an object in the drawing | Isometric length of the object / Length of an object in the drawing |
| Right Answer | A | | | |

| | | | | |
|-----------------|------------------------------------|---|-----------------------------------|--|
| Question No. 87 | ECBC stands for | | | |
| Answer Options | A) | B) | C) | D) |
| | Electrical Credit in Building Code | Electrical Conduit in Building Construction | Energy Conservation Building Code | Energy Credit in Building Construction |
| Right Answer | C | | | |

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|-----------------|---|---------------|---------------------|-----------------|
| Question No. 88 | Aerial photography is a useful tool to obtain ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Land contour data | Land use data | Land ownership data | Land cover data |
| Right Answer | D | | | |

| | | | | |
|-----------------|---------------------------------|---------------|--------|-----------|
| Question No. 89 | Pot tiles are _____ in section. | | | |
| Answer Options | A) | B) | C) | D) |
| | Circular | Semi-circular | Square | Hexagonal |
| Right Answer | B | | | |

| | | | | |
|-----------------|---|---------|---------|--------|
| Question No. 90 | Which gas produced in open dumps from the decomposition of biodegradable waste? | | | |
| Answer Options | A) | B) | C) | D) |
| | Ethane | Methane | Propene | Ethene |
| Right Answer | B | | | |

| | | | | |
|-----------------|--|-----|-----|-----|
| Question No. 91 | As per the National Building Code of India 2016, the minimum turning radius (in metres) required for fire tender movement is ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 8.0 | 8.5 | 9.0 | 9.5 |
| Right Answer | C | | | |

| | | | | |
|-----------------|---|--------------|--------------|------------|
| Question No. 92 | 'Sight Distance' is considered in the design of | | | |
| Answer Options | A) | B) | C) | D) |
| | Road intersection | Fenestration | Open kitchen | Auditorium |
| Right Answer | A | | | |

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|-----------------|--|-------------|-------------|-------------|
| Question No. 93 | As per the Urban and Regional Development Plan Formulation and Implementation (URDPFI) guidelines, the plan period considered in a 'Perspective plan' is ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | 5-10 years | 10-15 years | 20-25 years | 30-35 years |
| Right Answer | C | | | |

| | | | | |
|-----------------|---|------------------|-----------------|----------------------|
| Question No. 94 | This type of structural steel drawing shows all dimensions necessary for fabrication: | | | |
| Answer Options | A) | B) | C) | D) |
| | Shop Drawings | Working Drawings | Design Drawings | Application Drawings |
| Right Answer | A | | | |

| | | | | |
|-----------------|---|-------------|-----------------|----------------|
| Question No. 95 | Stepping stones are important features of ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Mughal garden | Roji garden | Paradise garden | Cottage garden |
| Right Answer | B | | | |

| | | | | |
|-----------------|--------------------------------|--|---|-------------------------------------|
| Question No. 96 | 'Glazing stop' is used ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | as a bearing support for glass | to seal the glass against water and air infiltration | to provide a cushion between the glass and the glazing pocket | to provide lateral support to glass |
| Right Answer | D | | | |

| | | | | |
|-----------------|--|-------|------|-------|
| Question No. 97 | The hue at the centre of the Munsell Colour Solid is ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Black | Sepia | Grey | White |
| Right Answer | C | | | |

| | | | | |
|-----------------|---|----------------|------------------|---------------|
| Question No. 98 | The development of the curved surface of a cone is a _____ of a _____ | | | |
| Answer Options | A) | B) | C) | D) |
| | segment, circle | sector, circle | segment, ellipse | arc, parabola |
| Right Answer | B | | | |

| | | | | |
|-----------------|---|----------|--------|------------|
| Question No. 99 | The following is formed by revolving rectangle about one of its sides which remains fixed ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Cone | Cylinder | Sphere | Hemisphere |
| Right Answer | B | | | |

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|------------------|---|-----------------------------------|------------------------|--------------------------|
| Question No. 100 | Proportioning system used in the layout of Mughal Gardens is derived from ____. | | | |
| Answer Options | A) | B) | C) | D) |
| | Constants of right-angled isosceles triangle | Constants of equilateral triangle | Rational number system | Irrational number system |
| Right Answer | C | | | |