

# CII – iPATE 1.0 (2020)

## Computer Based PAN India Examination

Category: GRADUATE ENGINEER

Engineering Discipline: CIVIL ENGINEERING

### Question Paper Structure

Question Nos.	Sections & Topics		Marks
1 to 20	Section I : Cognitive Abilities	<ul style="list-style-type: none"><li>Quantitative Aptitude</li><li>Analytical Reasoning</li><li>Data Interpretation</li><li>English Communication</li></ul>	20
21 to 40	Section II : Professional Abilities	<ul style="list-style-type: none"><li>Project Management</li><li>Health, Safety &amp; Risk Management</li><li>Environmental Laws</li><li>Social Responsibility &amp; Ethics</li><li>Finance &amp; Accounts</li><li>Legal, Contracts &amp; Arbitration</li></ul>	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
<b>TOTAL</b>			<b>100</b>

**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 shuffling at Candidates' terminal

Question No. 1	X, Y and Z are three participants in a kilometer race. If X can give Y a start of 40m and X can give Z a start of 64m, how many metres start can Y give Z?			
Answer Options	A) 20 mtr	B) 15 mtr	C) 25 mtr	D) 10 mtr
Right Answer	C			

Question No. 2	Two places A and B are 125km apart. Ram started from A to B and Raj from B to A at the same time. They met at a point 75km from A. Find the ratio of speeds of Ram & Raj.			
Answer Options	A) 3:2	B) 2:3	C) 1:3	D) 3:4
Right Answer	A			

Question No. 3	The length of a circular track is 800 m. Virat and Amresh started from the same point on the track and ran in opposite directions. Virat took 12 minutes to cover one kilometer while Amresh took only 9 minutes to cover the same distance. They kept running for 90 minutes. How many times did they cross each other?			
Answer Options	A) 10	B) 20	C) 21	D) 30
Right Answer	C			

Question No. 4	The marks scored by Prasoon Joshi in three subjects are in the ratio 4 : 5 : 6. Prasoon Joshi scored an overall aggregate of 60% in the exam. If the maximum marks in each subject are the same, in how many subjects did Prasoon Joshi score more than 70% marks?			
Answer Options	A) One	B) Two	C) Three	D) Zero
Right Answer	A			

Question No. 5	Meena scores 40% in an examination and after review, even though her score is increased by 50%, she fails by 35 marks. If her post-review score is increased by 20%, she will have 7 marks more than the passing score. The percentage score needed for passing the examination is			
Answer Options	A) 75	B) 80	C) 60	D) 70
Right Answer	D			

Question No. 6	Fill up the following series: 100, 50, 52, 26, 28, _____			
Answer Options	A) 30	B) 32	C) 14	D) 16
Right Answer	C			

Question No. 7	<p><b>The question is followed by three statements I, II, and III. Read the question and the statements carefully and choose your answer according to which set of the statement(s) is/are sufficient to answer the question.</b></p> <p>What is the present age of Rakesh?</p> <p>I. The ratio of the ages of Ramesh and Rakesh, three years ago, was 4 : 5.</p> <p>II. The ratio of the ages of Rajesh and Rakesh, after two years, will be 4 : 5.</p> <p>III. Two years ago the ratio of the ages of Rajesh and Ramesh was 12 : 13.</p>			
Answer Options	A)	B)	C)	D)
	I and II only	II and III only	I and III only	All I, II and III
Right Answer	D			

Question No. 8	<p><b>The question below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and give answer:</b></p> <p>In a kilometre race, by how many meters Chandu beats Chand?</p> <p>Statement I : In a kilometer race, Chandu beats Chandan by 100 meters.</p> <p>Statement II : The respective ratio of the speed of Chandan and Chand is 4 : 3.</p> <p>Statement III : In a kilometer race, Chandan beats Chand by 150 meters.</p>			
Answer Options	A)	B)	C)	D)
	Either statement III alone or statements I and II together are sufficient	Only statement III is sufficient	Only statement I and II are sufficient	Only statement I, II, and III are sufficient
Right Answer	C			

Question No. 9	<p>In the following question, there is a certain relationship between two given words on one side of:: and one word is given on another side of:: while another word is to be found from the given alternatives having the same relationship with this word as the words of the given pair bear. Choose the correct alternative.</p> <p>particular : fussy :: _____ : subservient</p>			
Answer Options	A)	B)	C)	D)
	meek	above	cranky	uptight
Right Answer	A			

Question No. 10	<p>Pinky, who is Victor's daughter, say to Lucy, "Your Mother Rosy is the younger sister of my Father, who is the third child of Joseph." How is Joseph related to Lucy?</p>			
Answer Options	A)	B)	C)	D)
	Father - In - Law	Father	Maternal Uncle	Grand Father
Right Answer	D			

Question No. 11	Attracted by the serenity of the evening, a friend and I lately went to one of the public walks near the city. Here we (1) _____ together for some time. Then my friend, stopping suddenly, (2) _____ by the elbow, and led me out of the public walk. I could perceive by the quickness of this (3)_____, and by his frequently looking behind, that he was attempting to avoid somebody who followed.			
Answer Options	A)	B)	C)	D)
	(1)sauntered, (2)trapped, (3)pace	(1)vamoosed, (2)relinquished, (3)hands	(1)dance, (2)caught, (3) gallop	(1)sauntered, (2)caught, (3)gallop
Right Answer	D			

Question No. 12	It was not surprising that my own countrymen should treat me so, for I had gained a (1) _____ of notoriety and popularly among them. Even for Englishmen I was individual and not merely one of the (2)_____ and, I imagine the fact that I had received my education in England, brought me (3)_____			
Answer Options	A)	B)	C)	D)
	(1) weight (2) collection (3) in juxtaposition with them	(1) ration (2) mass (3) nearer to them	(1) measure (2) dispersal (3) at a remote position	(1) measure (2) mass (3) nearer to them
Right Answer	D			

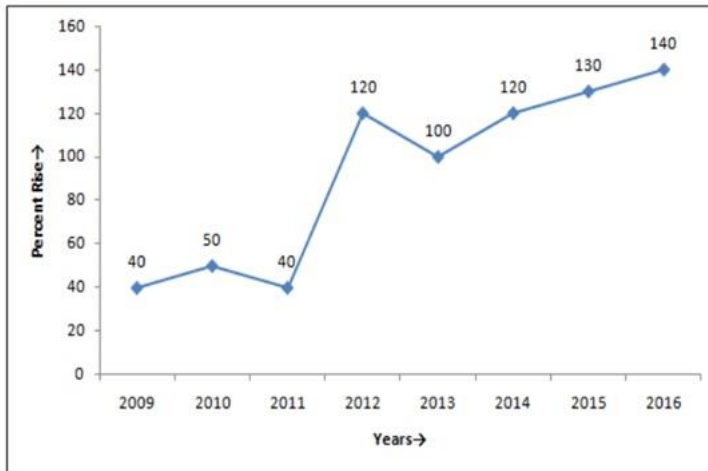
Question No. 13	<b>Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.</b>  A: A man on a bike had to ride on the pavement. B: When he tried to plunge onto the road, a car hit him. C: As the bus inched through the evening life, the traffic grew. D: There was no space on the road any more.			
Answer Options	A)	B)	C)	D)
	CBAD	DBCA	ADBC	CDAB
Right Answer	D			

Question No. 14	Select the Antonym of OFFHAND			
Answer Options	A)	B)	C)	D)
	accurate	universal	appropriate	premeditated
Right Answer	D			

Question No. 15	What is the synonym of SEIZE			
Answer Options	A)	B)	C)	D)
	Start	Release	Length	Grasp
Right Answer	D			

Question No. 16

The Line graph given below shows the percent rise in population from 2009 to 2016.  
For how many years the percent rise was more than 100%



Answer Options

A)	B)	C)	D)
4	3	2	5

Right Answer

A

Question No. 17

The following table gives the percentage of marks obtained by seven students in six different subjects in an examination. What are the average marks obtained by all the seven students in Physics? (rounded off to two digit after decimal)

The Numbers in the Brackets give the Maximum Marks in Each Subject.

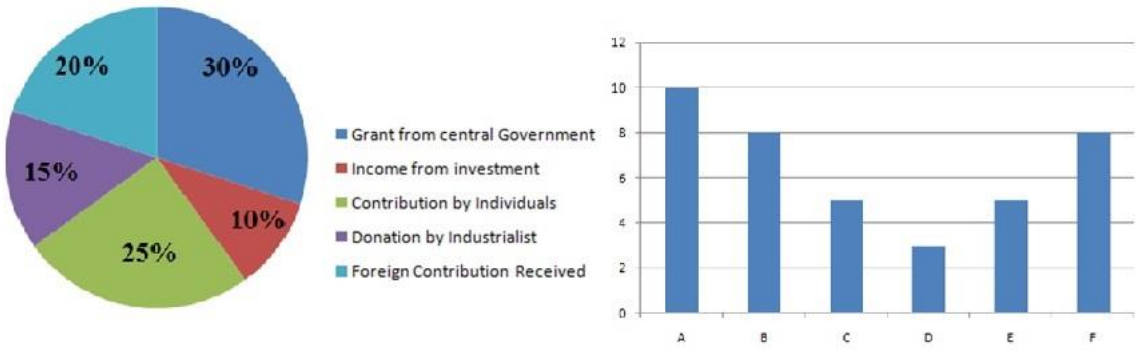
Student	Subject (Max. Marks)					
	Maths	Chemistry	Physics	Geography	History	Computer Science
	(150)	(130)	(120)	(100)	(60)	(40)
Ayush	90	50	90	60	70	80
Aman	100	80	80	40	80	70
Sajal	90	60	70	70	90	70
Rohit	80	65	80	80	60	60
Muskan	80	65	85	95	50	90
Tanvi	70	75	65	85	40	60
Tarun	65	35	50	77	80	80

Answer Options

A)	B)	C)	D)
58	89.14	74	80

Right Answer

D

<p>Question No. 18</p>	<p>The pie-chart shows sources of income for an NGO. The total income is Rs.40 crore. The bar chart gives the expenditure incurred on various items A – Food for poor, B – Education to illiterate, C – Mid-day meal programme, D – General Expenses, E – Eye Camp expenses, F – Integrated Street Children Programme.(in Crores)</p>  <p>What Percentage of money is saved by the NGO?</p>			
<p>Answer Options</p>	<p>A) 0.035</p>	<p>B) 0.045</p>	<p>C) 0.025</p>	<p>D) 0.038</p>
<p>Right Answer</p>	<p>C</p>			

<p>Question No. 19</p>	<p>Read the following information carefully and answer the following question.</p> <p>i) 'A \$ B' means 'A is mother of B';                  ii) 'A # B' means 'A is father of B';                  iii) 'A @ B' means 'A is husband of B';                  iv) 'A % B' means 'A is daughter of B'.</p> <p>P @ Q \$ M # T indicates what relationship of P with T?</p>			
<p>Answer Options</p>	<p>A) Paternal grandmother</p>	<p>B) Maternal grandmother</p>	<p>C) Paternal grandfather</p>	<p>D) Maternal grandfather</p>
<p>Right Answer</p>	<p>C</p>			

<p>Question No. 20</p>	<p>A monkey starts climbing up a tree 20ft. tall. Each hour, it hops 3ft. and slips back 2ft. How much time would it take the monkey to reach the top?</p>			
<p>Answer Options</p>	<p>A) 21 hours</p>	<p>B) 12 hours</p>	<p>C) 18 hours</p>	<p>D) 15 hours</p>
<p>Right Answer</p>	<p>C</p>			

<p>Question No. 21</p>	<p>Gantt Chart is commonly used for _____</p>			
<p>Answer Options</p>	<p>A) Routing</p>	<p>B) Scheduling</p>	<p>C) Follow up</p>	<p>D) Inspection and quality control</p>
<p>Right Answer</p>	<p>B</p>			

Question No. 22	Consider the following features/factors: (i) Projects are of non-repetitive type, (ii) Time required need not be known, (iii) Events have been established for planning, (iv) Emphasis is given to activities of project. PERT is preferred for planning because of.....			
Answer Options	A)	B)	C)	D)
	(i), (ii) and (iv)	(ii), (iii) and (iv)	(i), (iii) and (iv)	(i), (ii) and (iii)
Right Answer	A			

Question No. 23	What is the Critical Path Method (CPM)			
Answer Options	A)	B)	C)	D)
	It is an improvement upon Bar Chart method	It provides a realistic approach to daily problems	It avoids delay which is common in Bar Chart	All the options
Right Answer	D			

Question No. 24	An activity has an early start(ES) of day 3, a late start(LS) of day 13, an early finish(EF) of day 9 and a late finish(LF) of day 19. The activity ____			
Answer Options	A)	B)	C)	D)
	Is on the Critical path	Has a Lag	Progressing well	Is not on the Critical path
Right Answer	D			

Question No. 25	The following extinguisher is suitable for cotton or other textile fire			
Answer Options	A)	B)	C)	D)
	Water	Soda acid	Foam	Dry chemicals
Right Answer	D			

Question No. 26	The following class of fire occur in electrical equipment			
Answer Options	A)	B)	C)	D)
	Class-A fires	Class-B fires	Class-C fires	All of the above
Right Answer	C			

Question No. 27	Which of the following is not a chemical-related health hazard?			
Answer Options	A)	B)	C)	D)
	Carcinogenicity	Reactivity	Corrosivity	Toxicity
Right Answer	B			

Question No. 28	You should wear eye, head, and face protection if you are working with which of the following tools?			
Answer Options	A)	B)	C)	D)
	Portable abrasive wheel tools	Electric tools	Pneumatic tools	Liquid fuel tools
Right Answer	C			

Question No. 29	BOD is measure of			
Answer Options	A)	B)	C)	D)
	The amount of oxygen consumed in the biological process	The utilization of organic substances by aerobic microorganisms	Respiratory needs of biological community	None of the above
Right Answer	A			

Question No. 30	Smoke + fog is called as			
Answer Options	A)	B)	C)	D)
	Soeg	smog	Both (A) and (B)	None of the above
Right Answer	B			

Question No. 31	A Company or organization can go to ISO 14000 certificate provided it has an ongoing environmental management system in operation for at least			
Answer Options	A)	B)	C)	D)
	3 months	6 months	1 year	5 years
Right Answer	B			

Question No. 32	Which statement is true?			
Answer Options	A)	B)	C)	D)
	Walton writes that business ethics is related with truth and justice	A businessman who follows unethical conduct in business should be socially boycotted by the people	Government in the country has enacted various laws, rule and regulations under the provisions of which the business is bound to act honestly	All of the above
Right Answer	D			



Question No. 33	Which is the basic principle of ethos for management?			
Answer Options	A)	B)	C)	D)
	Co-operation is powerful instrument for team work and success in any enterprise involving collective work	Holistic approach indicating unity between the Divine, Individual Self and the Universe	Immense potential energy and talents for perfection as human being has the spirit within his heart	All of the above
Right Answer	D			

Question No. 34	The concept of international social responsibility is the expectation that MNCs concern themselves about _____ effects of their decisions regarding activities in other countries.			
Answer Options	A)	B)	C)	D)
	philosophical	competitive	environmental	social and economic
Right Answer	D			

Question No. 35	Net working Capital refers to			
Answer Options	A)	B)	C)	D)
	Current assets less current liabilities	Total assets less total liabilities	Current assets less inventories	Total current assets
Right Answer	A			

Question No. 36	Non-cash items refer to			
Answer Options	A)	B)	C)	D)
	The credit sales of a firm	The accounts payable of a firm	Expenses charged against revenues that do not directly affect cash flow	All accounts on the balance sheet other than cash on hand
Right Answer	D			

Question No. 37	The factor, which is largely considered in making or buying decisions			
Answer Options	A)	B)	C)	D)
	Quality Suppliers	Dependability of Suppliers	Production irrelevancy	Both A & B
Right Answer	D			

Question No. 38	Which of the following model law was used by the Indian Arbitration & Conciliation Act,1996			
Answer Options	A)	B)	C)	D)
	Indian Constitution	Guideline of Supreme Court	European commercial Arbitration procedure	UNCITRAL
Right Answer	D			

Question No. 39	An arbitral award made under Arbitration & Conciliation Act,1996 shall be considered as a _____			
Answer Options	A)	B)	C)	D)
	General award	International award	Domestic award	Foreign award
Right Answer	C			

Question No. 40	Which level of management is responsible for implementing programs that are intended to carry out the broader objectives of an organization set by management			
Answer Options	A)	B)	C)	D)
	Supervisory managers	Middle managers	First level managers	Financial managers
Right Answer	B			

Question No. 41	The rate at which electrical energy is used may be measured in:			
Answer Options	A)	B)	C)	D)
	watt/second	watt second	watt	kilowatt-hour
Right Answer	C			

Question No. 42	Radio waves are readily diffracted around buildings whereas light waves are negligibly diffracted around buildings. This is because radio waves:			
Answer Options	A)	B)	C)	D)
	are plane polarized	have much longer wavelengths than light waves	have much shorter wavelengths than light waves	are nearly monochromatic (single frequency)
Right Answer	B			

Question No. 43	An ideal gas expands into a vacuum in a rigid vessel. As a result there is:			
Answer Options	A)	B)	C)	D)
	a change in entropy	a change in temperature	a change in phase	an increase of pressure
Right Answer	A			

Question No. 44	A heat engine:			
Answer Options	A)	B)	C)	D)
	converts heat input to an equivalent amount of work	converts work to an equivalent amount of heat	takes heat in, does work, and loses energy as heat	uses positive work done on the system to transfer heat from a low temperature reservoir to a high temperature reservoir
Right Answer	C			

Question No. 45	The coefficient of kinetic friction:			
Answer Options	A)	B)	C)	D)
	is in the direction of the frictional force	is in the direction of the normal force	is the ratio of force to area	None of the above
Right Answer	D			

Question No. 46	Which of the following is a crystalline solid?			
Answer Options	A)	B)	C)	D)
	Tar	Butter	Glass	Common salt
Right Answer	D			

Question No. 47	Which of the following are physical changes? (i) Melting of iron metal (ii) Rusting of iron (iii) Bending of an iron rod (iv) Drawing a wire of iron metal			
Answer Options	A)	B)	C)	D)
	(i), (ii) and (iii)	(i), (ii) and (iv)	(i), (iii) and (iv)	(ii), (iii) and (iv)
Right Answer	C			

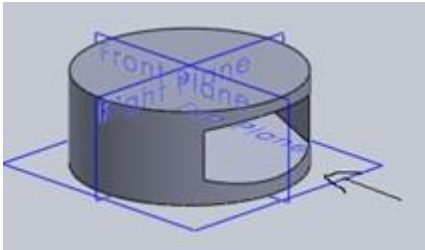
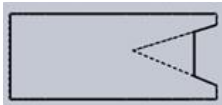

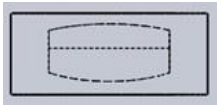
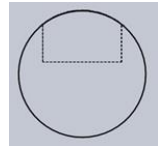
Question No. 48	The monomers of Buna-S rubber are			
Answer Options	A)	B)	C)	D)
	styrene and butadiene	isoprene and butadiene	vinyl chloride and sulphur	butadiene
Right Answer	A			

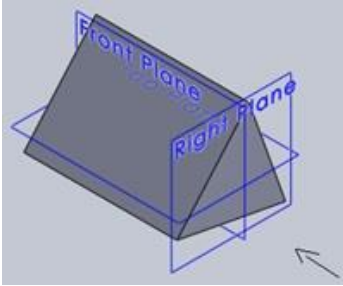
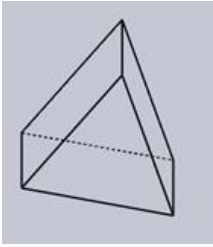
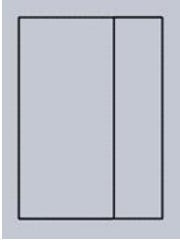
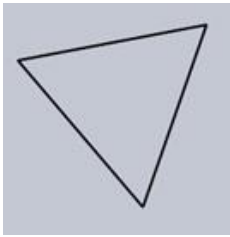
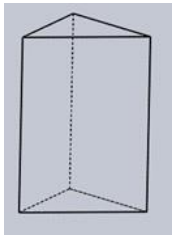
Question No. 49	Equal masses of ethane and hydrogen are mixed in any empty container at 25°C. The fraction of total pressure exerted by hydrogen is			
Answer Options	A)	B)	C)	D)
	1:2	1:1	1:16	15:16
Right Answer	D			

Question No. 50	n-propyl bromide on treating with alcoholic KOH produces			
Answer Options	A)	B)	C)	D)
	propyne	propene	propane	propanol
Right Answer	B			

Question No. 51	When a solid completely penetrates another solid, there will be two lines of intersection. These lines are called _____			
Answer Options	A)	B)	C)	D)
	line of interpenetration	concylic curves of lines	hidden lines	inside line
Right Answer	A			

Question No. 52	Drawing straight lines on both the surfaces of solids and then pointing the points where they intersect and drawing lines which forms the line of intersection this process of finding the line of intersection is termed as _____ method.			
Answer Options	A)	B)	C)	D)
	assumption	line	removing material	cutting- plane
Right Answer	B			

Question No. 53	Identify the back view for the below cylinder.			
				
Answer Options	A)	B)	C)	D)
				
Right Answer	C			

<p>Question No. 54</p>	<p>Identify the front view from the isometric view for the below-given prism.</p> 			
<p>Answer Options</p>	<p>A)</p> 	<p>B)</p> 	<p>C)</p> 	<p>D)</p> 
<p>Right Answer</p>	<p>C</p>			

<p>Question No. 55</p>	<p>The perspectives of concentric circles are not concentric _____</p>			
<p>Answer Options</p>	<p>A) circles</p>	<p>B) ellipses</p>	<p>C) spheres</p>	<p>D) ellipsoids</p>
<p>Right Answer</p>	<p>B</p>			

<p>Question No. 56</p>	<p>What are the elements of Green buildings?</p>			
<p>Answer Options</p>	<p>A) Indoor air quality</p>	<p>B) Innovation in designs</p>	<p>C) Material Resources</p>	<p>D) All of these</p>
<p>Right Answer</p>	<p>D</p>			

<p>Question No. 57</p>	<p>One of the benefits of Building Information Model (BIM) is</p>			
<p>Answer Options</p>	<p>A) Calculating safe bearing capacity of soil</p>	<p>B) Clash Detection</p>	<p>C) Wind analysis</p>	<p>D) None of these</p>
<p>Right Answer</p>	<p>B</p>			

Question No. 58	A JCB can excavate sandy soils roughly			
Answer Options	A)	B)	C)	D)
	35 to 40 cum per hour	35 to 40 cum per day	15 to 20 cum per hour	15 to 20 cum per day
Right Answer	A			

Question No. 59	Environmental clearance is required for projects with built up areas of			
Answer Options	A)	B)	C)	D)
	more than 10000 sqm	more than 12000 sqm	more than 20000 sqm	more than 25000 sqm
Right Answer	C			

Question No. 60	Segregation in concrete is due to			
Answer Options	A)	B)	C)	D)
	Lack of sufficient quantity of fine aggregates	Dropping concrete from a greater height	Over vibration	All of these
Right Answer	D			

Question No. 61	Which system of formwork is most preferred in buildings to cast floor slabs and walls simultaneously			
Answer Options	A)	B)	C)	D)
	Cuplock system	Mivan system	Table form work system	Wooden ballis and plywood system
Right Answer	B			

Question No. 62	ETABS software is normally used for			
Answer Options	A)	B)	C)	D)
	Electrical designs	Civil Structural designs	Chiller designs	Concrete design mix
Right Answer	B			

Question No. 63	Efflorescence in cement is caused due to an excess of			
Answer Options	A)	B)	C)	D)
	Alumina	Iron Oxide	Silica	Alkalies
Right Answer	D			

Question No. 64	When two plates butt together and are riveted with two cover plates with two rows of rivets, the joint is known as			
Answer Options	A)	B)	C)	D)
	Lap joint	Butt joint	Single riveted single cover butt joint	Double riveted double cover butt joint
Right Answer	D			

Question No. 65	The surface of zero elevation around the earth, which is slightly irregular and curved, is known as			
Answer Options	A)	B)	C)	D)
	Mean sea level	Geoid surface	Level surface	Horizontal surface
Right Answer	B			

Question No. 66	The number of commercial vehicles per day as per last count of a highway is 10000, the number of years between the last count and the year of completion of construction is 2 and annual growth rate of commercial vehicle is 5 %. Then the traffic in the year of completion of construction is			
Answer Options	A)	B)	C)	D)
	11750	11025	12500	10500
Right Answer	B			

Question No. 67	Lateral distribution of commercial traffic over the carriageway considering the total number of commercial vehicles in both the direction for design of two-lane two-way road is			
Answer Options	A)	B)	C)	D)
	0.75	0.6	0.5	0.4
Right Answer	C			

Question No. 68	The design of a Major District Road with design traffic less than 20 msa should be based on subgrade CBR percentile of			
Answer Options	A)	B)	C)	D)
	80 th	90 th	70 th	75 th
Right Answer	A			

Question No. 69	For designing of pavement following IRC 37-2018, Poisson's ratio value for the granular bases and sub - bases can be taken as			
Answer Options	A)	B)	C)	D)
	0.25	0.28	0.3	0.35
Right Answer	D			

Question No. 70	The type of bitumen should be used for Dense Bituminous Macadam mix of a road with more than 20 msa design traffic is			
Answer Options	A)	B)	C)	D)
	VG 40	VG 30	VG 20	VG 10
Right Answer	A			

Question No. 71	For highly stressed area or roads in high rainfall areas and junction locations the type of surface course recommended to be used as per IRC 37-2018 is			
Answer Options	A)	B)	C)	D)
	Mastic Asphalt	Mix Seal Surfacing	Surface Dressing	Pre-Mix Carpet
Right Answer	A			

Question No. 72	For roads estimated to carry more than 450 commercial vehicles per day ( two way ) in the year of construction, the recommended effective subgrade CBR as per IRC 37-2018 should be more than			
Answer Options	A)	B)	C)	D)
	0.05	0.04	0.06	0.03
Right Answer	A			

Question No. 73	The commercial vehicles considered for structural design of road pavement should have minimum gross weight of			
Answer Options	A)	B)	C)	D)
	10 MT	8 MT	5 MT	3 MT
Right Answer	D			

Question No. 74	For a highway having commercial traffic volume ( cvpd ) of 2500, the minimum percentage of commercial traffic to be surveyed during Axel load survey of is			
Answer Options	A)	B)	C)	D)
	15	20	25	30
Right Answer	B			

Question No. 75	The limestone powder used as filler for preparation of mastic asphalt should content minimum calcium carbonate of			
Answer Options	A)	B)	C)	D)
	0.7	0.75	0.8	0.85
Right Answer	C			



Question No. 76	Which method of inspection is not related for inspecting welds.			
Answer Options	A)	B)	C)	D)
	Magnetic Partical Method	Ultrasonic Method	Radiography Method	Water jet method
Right Answer	D			

Question No. 77	The effective length of a steel cantilever beam of projecting Length $L$ , with end condition of built-in at the support and free at end is,			
Answer Options	A)	B)	C)	D)
	$2L$	$0.5L$	$0.75L$	$0.85L$
Right Answer	D			

Question No. 78	As per recommendation of IS- 456-2000, the type of Environmental Exposure Condition for concrete structure completely immersed in sea water is			
Answer Options	A)	B)	C)	D)
	Mild	Moderate	Severe	Extreme
Right Answer	C			

Question No. 79	Minimum period before striking of formwork for props of RCC beams spanning up to 6 M, with ambient temperature not below 15 degree & where OPC cement had been used with adequate curing is			
Answer Options	A)	B)	C)	D)
	3 days	7 days	14 days	21 days
Right Answer	C			

Question No. 80	What is the recommended minimum period of moist curing as per IS 456-2000, for concrete using OPC cement and mineral admixtures?			
Answer Options	A)	B)	C)	D)
	7 days	10 days	14 days	21 days
Right Answer	C			

Question No. 81	Which method of test of concrete is not included to non-destructive test?			
Answer Options	A)	B)	C)	D)
	Rebound Hammer Test	Ultrasonic Pulse Velocity Test	Profometer Test	Core Test
Right Answer	D			

Question No. 82	The recommended minimum grade of concrete and maximum water cement ratio of Reinforced Concrete under severe environmental exposure as per IS-456-200 are respectively,			
Answer Options	A)	B)	C)	D)
	M- 30 & 0.45	M- 35 & 0.40	M- 25 & 0.5	M- 20 & 0.55
Right Answer	A			

Question No. 83	For acceptance of a concrete member represented by core test the average equivalent cube strength of cores and the individual strength of core should at least have a percentage of strength for the specified grade of concrete for the corresponding age respectively,			
Answer Options	A)	B)	C)	D)
	85% & 75%	80% & 70%	90% & 80%	100% & 95%
Right Answer	A			

Question No. 84	The compressive strength of 100 mm cubes of the grout for Post tensioned Pre-stressed Girder at 28 days should not be less than,			
Answer Options	A)	B)	C)	D)
	30 MPa	27 MPa	22 MPa	18 MPa
Right Answer	B			

Question No. 85	Maximum permissible stresses in high -tensile steel of post-tensioned pre-stressed girder at the time of initial tensioning, as a percentage of characterised tensile strength of tendons is			
Answer Options	A)	B)	C)	D)
	0.9	0.85	0.8	0.75
Right Answer	C			

Question No. 86	D.O. concentration may fall to zero, causing anaerobic conditions in a river reach, called			
Answer Options	A)	B)	C)	D)
	Zone of degradation	zone of active decomposition	zone of recovery	None of these
Right Answer	B			

Question No. 87	Algae dies out, through fish life may survive, in a river zone, known as,			
Answer Options	A)	B)	C)	D)
	Zone of degradation	zone of active decomposition	zone of recovery	None of these
Right Answer	A			

Question No. 88	The phenomenon by virtue of which a soil is clogged with sewage matter, is called			
Answer Options	A)	B)	C)	D)
	sewage farming	sewage bulking	sewage sickness	None of these
Right Answer	C			

Question No. 89	Disposal of sewage causes formation of sludge banks in			
Answer Options	A)	B)	C)	D)
	river waters	lake waters	sea waters	None of these
Right Answer	C			

Question No. 90	Sewage treatment units are generally designed for			
Answer Options	A)	B)	C)	D)
	Maximum flow only	Minimum flow only	Average flow only	Maximum and minimum flow both
Right Answer	C			

Question No. 91	The sewage treatment units, which work on aerobic decomposition of organic matter, are			
Answer Options	A)	B)	C)	D)
	trickling filters	imhoff tanks	sludge digestion tanks	None of these
Right Answer	A			

Question No. 92	Activated sludge treatment plants are normally preferred for			
Answer Options	A)	B)	C)	D)
	towns & smaller cities	medium size cities	large sized cities	All of these
Right Answer	C			

Question No. 93	A given sludge with 95% moisture is X times more bulky than with 90% moisture, where X is,			
Answer Options	A)	B)	C)	D)
	2.5	2	1.5	1.2
Right Answer	B			

Question No. 94	When the recirculation ratio in a high rate trickling filter is unity, then the recirculation factor is			
Answer Options	A)	B)	C)	D)
	1	more than 1	less than 1	zero
Right Answer	B			

Question No. 95	For the same solids content, if the quantity of sludge with moisture content of 97% is X litres, then the quantity of sludge with moisture content of 94% will be			
Answer Options	A)	B)	C)	D)
	X/4 litres	X/3 litres	X/2 litres	2X litres
Right Answer	C			

Question No. 96	During initial vertical load test of a single pile with uniform diameter of 1000 mm , following settlements and corresponding vertical test loads had been observed , a) 12 mm settlement at 200 M.T of test load b) 18 mm settlement at 330 M.T of test load & c) 100 mm settlement at 480 M.T of test load . The safe vertical load for this pile will be,			
Answer Options	A)	B)	C)	D)
	200 MT	220 MT	240 MT	330 MT
Right Answer	B			

Question No. 97	During routine vertical load test of three single piles with different diameter, following settlements had been observed at test loads of 1.5 times the corresponding working load for each pile A) Pile diameter 500 mm, final settlement is 13.5 mm. B) Pile diameter 750 mm, final settlement is 14.0 mm C) Pile diameter 1000 mm, final settlement is 16.2 mm. D) Pile diameter 1200 mm, final settlement is 22.4 mm. Now, out of four piles safe piles are			
Answer Options	A)	B)	C)	D)
	A & B	B & C	A & C	A, B & C
Right Answer	B			

Question No. 98	The minimum required grade of concrete for a cast-in-situ bored pile for bridge foundation is			
Answer Options	A)	B)	C)	D)
	M25	M30	M35	M40
Right Answer	C			

Question No. 99	The maximum permissible deflection under routine lateral load test for a uniform dia pile with test load equal to the working load is			
Answer Options	A)	B)	C)	D)
	5 mm	8mm	12 mm	18 mm
Right Answer	A			

Question No. 100	During initial lateral load test of a single pile with uniform diameter of 1000 mm, following displacements at cut-off level and corresponding lateral test load had been observed, a) 5 mm displacement at 120 MT of lateral test load b) displacement increases to 12mm at 200 MT of lateral test load. The safe lateral load on pile will be,			
Answer Options	A)	B)	C)	D)
	120 MT	200 MT	100 MT	150 MT
Right Answer	C			