

NATIONAL INSTITUTE OF TECHNOLOGY, GOA

Recruitment for the Post of Technician

Total Time Allowed: 1 hour 30 minutes

Total Marks: 75

IMPORTANT INSTRUCTIONS

1. The candidate will be supplied with the Question Booklet and OMR Answer Sheet 05 minutes prior to the commencement of the Examination.
2. The Level I Written Examination has the following two parts:
 - Level I, Part A (General) consists of 25 questions for a total of 25 marks, with 1 mark awarded for each correct answer and a negative marking of 0.25 for every wrong answer.
 - Level I, Part B (Domain Specific) consist of 50 questions for a total of 50 marks, with 1 mark awarded for each correct answer and a negative marking of 0.25 for every wrong answer.
3. The candidates have to mark their answer by completely darkening the appropriate circle on the OMR Answer sheet. Incomplete or improper marking may lead to non-evaluation.
4. The candidate may use strictly Black/Blue Ball Pen to darken the circle completely.
5. Question Paper, OMR sheet and rough sheet will have to be returned to the Invigilator after the end of the exam.
6. No candidates will be allowed to leave the Exam Hall before the scheduled completion time.
7. Before attempting to answer, candidates are requested to check whether all the questions are there and ensure there are no blank pages in the Question Booklet.
8. The candidate must write their Application ID in the space provided and sign on Question Booklet and OMR sheet. Do not write anything else on the Question Booklet.
9. Each question comprises four responses (A), (B), (C) and (D). Candidates have to select ONLY ONE correct response.
10. If more than one option is marked for one question, the answer will be treated as wrong. e.g. If for any item, **B** is the correct answer, the candidate has to darken only the **B circle on OMR sheet** against the question.
11. Candidates should not remove or tear off any sheet from this Question Booklet. Candidates are not allowed to take the Question Booklet out of the Examination Hall.
12. Failure to comply with any of the above instructions will render the candidate liable to such action or penalty as may be decided by the Competent Authority, NIT Goa.

Invigilator's Signature

Candidate's Signature

PART-A

Question number	Question	Answer
1.	<p>A person who looks on the bright side of things is called:</p> <p>A) Pessimist thinker B) Cynical observer C) Optimistic person D) Realistic critic</p>	
2.	<p>Choose the correct alternative: She is more taller than her sister.</p> <p>A) very taller than B) much taller than C) much tallest than D) most taller than</p>	
3.	<p>Choose the correct sentence.</p> <p>A) The informations are useful. B) The information are useful. C) The informations is useful. D) The information is useful.</p>	
4.	<p>Choose the correct word: He was accused ___ misconduct.</p> <p>A) for B) with C) of D) by</p>	
5.	<p>Choose the passive form: They are reviewing the applications.</p> <p>A) The applications are reviewed. B) The applications are being reviewed. C) The applications were reviewed D) The applications have reviewed.</p>	
6.	<p>Choose the correct indirect speech: She said, "I will attend the meeting."</p> <p>A) She said that she would attend the meeting. B. She said that she will attend the meeting. C) She says that she would attend the meeting. D) She said that I would attend the meeting.</p>	
7.	<p>Identify the correct sentence.</p> <p>A) Each of the students have submitted forms. B) Each of the student has submitted forms. C) Each of the student have submitted forms. D) Each of the students has submitted forms.</p>	
8.	<p>Arrange the words to form a meaningful sentence: always / punctual / he / is</p> <p>A) He punctual is always. B) Always he punctual is. C) He is always punctual. D) Is he always punctual.</p>	
9.	<p>The Goods and Services Tax (GST) was introduced in India in:</p> <p>A) 2014 B) 2015 C) 2016 D) 2017</p>	

10.	Which organisation conducts the Civil Services Examination in India? A) Staff Selection Commission B) Union Public Service Commission C) Election Commission of India D) Finance Commission of India	
11.	The Swachh Bharat Mission primarily focuses on: A) Digital literacy improvement B) Rural employment schemes C) Sanitation and cleanliness D) Industrial modernization	
12.	Who is the current President of India? A) Narendra Modi B) Droupadi Murmu C) Jagdeep Dhankhar D) Ram Nath Kovind	
13.	The headquarters of ISRO is located in: A) Hyderabad B) Bengaluru C) Chennai D) Ahmedabad	
14.	Which Article of the Indian Constitution deals with Fundamental Rights? A) Article 14–32 B) Article 36–51 C) Article 51A D) Article 368	
15.	The National Institutes of Technology (NITs) in India are governed by: A) Ministry of Science & Technology B) University Grants Commission (UGC) C) Ministry of Education D) All India Council for Technical Education (AICTE)	
16	If $1^3 + 2^3 + 3^3 + \dots + 9^3 = 2025$, the value of $0.11^3 + 0.22^3 + 0.33^3 + \dots + 0.99^3$ is equal to A) 3.6952 B) 0.2695 C) 2.6925 D) 0.3695	
17.	Solve $x^3 \times 10 = 13230 \div (9.261 \div 7)$ A) 20 B) 10 C) 100 D) 1000	
18.	The value of $2.3333 + 1.7272 - 1.5555$ is equal to A) $\frac{248}{99}$ B) $\frac{257}{99}$ C) $\frac{313}{99}$ D) $\frac{546}{99}$	
19.	The LCM of 12,15, 18, 21, 25 is A) 6500 B) 1701000 C) 6300 D) 6400	

20.	The ratio of two numbers is 4: 9. If their sum is 182, find the smaller number. A) 56 B) 60 C) 62 D) 58	
21.	The ratio of salaries of Ram and Shyam is 3: 5. If the salary of each is increased by Rs. 5000, the new ration becomes 29: 45. What is the present salary of Shyam? A) Rs. 24,000 B) Rs. 29,000 C) Rs. 40,000 D) Rs. 45,000	
22.	Three friends, A, B and C start a company by investing Rs. 50,000, Rs. 1,00,000 and Rs. 80,000 respectively. They decide to share the profit in the ration of capital invested. If the share of A is Rs. 20,000 from the total profit, determine the total profit earned. A) Rs. 1,00,000 B) Rs. 98,000 C) Rs. 95,000 D) Rs. 92,000	
23.	Ravi invests Rs. 10,000 in a fixed deposit scheme that offers 10% interest per annum compounded annually. He invests the sum for two years. How much interest does he earn? A) Rs. 1800 B) Rs. 2000 C) Rs. 2100 D) Rs. 2500	
24.	Determine the volume (<i>in cm³</i>) of the cylinder formed by rolling a rectangular paper of length 352 <i>cm</i> and width 76 <i>cm</i> along its longer side. Take $\pi = \frac{22}{7}$ A) 759056 <i>cm³</i> B) 749056 <i>cm³</i> C) 825760 <i>cm³</i> D) 852860 <i>cm³</i>	
25.	Ram can complete a task in 8 days and Shyam can complete the same task in 12 days. How long do they take to complete it if they work together? A) 5 B) 4.8 C) 4.5 D) 4	

PART-B

26.	A polynomial $f(x) = x^3 - 6x^2 + 11x - 6$ is given. Which of the following is a factor? A) $x + 2$ B) $x - 3$ C) $x - 4$ D) $x - 5$	
27.	The sum and difference of two numbers are in the ratio 7:1. If their product is 108, find the larger number. A) 12 B) 15 C) 18 D) 21	
28.	Simplify $(4z - 6y)^2 + (6z + 4y)^2 - 36z^2$ A) $8z^2 + 26y^2$ B) $16y^2 + 52z^2$ C) $16z^2 + 52y^2$ D) $8y^2 + 26z^2$	
29.	The value of $\left[\frac{1}{1+\cos^2\theta} + \frac{1}{1+\sec^2\theta}\right]$ is equal to A) 2 B) 0 C) -1 D) 1	
30.	A tree breaks due to a storm and the broken part bends so that the top of the tree touches the ground making an angle of 30° with the ground. The distance between the foot of the tree to the point where the top touches the ground is 18m. Find the height of the tree. A) $15\sqrt{3}$ B) $22\sqrt{3}$ C) $18\sqrt{3}$ D) $16\sqrt{3}$	
31.	The point on the x - axis that is equidistant from $(2, -5)$ and $(-2,9)$ is A) $(-7,0)$ B) $(-6,0)$ C) $(-2,0)$ D) $(7,0)$	
32.	Determine the linear path equation through the points $(2,4)$ and $(6,16)$ A) $y = 3x + 2$ B) $y = 3x - 2$ C) $y = -3x + 2$ D) $y = -3x - 2$	
33.	The distance between two points $(-6, y)$ and $(18,6)$ is 26 units. Find the value of y . A) $y = (4, -16)$ B) $y = (-4, -16)$ C) $y = (-4,16)$ D) $y = (4,16)$	
34.	The length, breadth and height of a cuboidal box are in the ratio of 8: 6: 4. If the total surface area of the box is 1300 cm^2 , find its breadth.	

	A) 12 cm B) 15 cm C) 18 cm D) 20 cm											
35.	If the lateral surface area of a cylinder is 840.3 cm^2 and its height is 18 cm , find its volume. (Use $\pi = 3.14$ and round off to two decimal places. A) 3123.25 cm^2 B) 3025.76 cm^2 C) 2896.74 cm^2 D) 4096.48 cm^2											
36.	A wire is bent in the form of a circle of radius 7 cm . The same wire is then reshaped to form a square. What is the side of the square? A) 10 cm B) 12 cm C) 11 cm D) 14 cm											
37.	The total surface area of a solid right circular cylinder is $372\pi \text{ cm}^2$ and its height is 25 cm . Its volume is $\frac{1}{5}$ th of the volume of a sphere. The surface area of the sphere is A) $700\pi \text{ cm}^2$ B) $1024\pi \text{ cm}^2$ C) $576\pi \text{ cm}^2$ D) $900\pi \text{ cm}^2$											
38.	Compute the mean of the following data <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>Numbers</td><td>8</td><td>10</td><td>15</td><td>20</td></tr><tr><td>Frequency</td><td>5</td><td>8</td><td>8</td><td>4</td></tr></table> A) 26.8 B) 12.8 C) 12.5 D) 26.5	Numbers	8	10	15	20	Frequency	5	8	8	4	
Numbers	8	10	15	20								
Frequency	5	8	8	4								
39.	A purse contains 3 silver and 6 copper coins and a second purse contains 4 silver and 3 copper coins. If a coin is drawn at random from one of the two purses, find the probability that it is a silver coin. A) $\frac{19}{42}$ B) $\frac{17}{42}$ C) $\frac{15}{42}$ D) $\frac{23}{42}$											
40.	A committee of 3 members is to be formed out of two men and three women. What is the probability that the committee has at least one man? A) $\frac{1}{5}$ B) $\frac{2}{5}$ C) $\frac{3}{5}$ D) $\frac{4}{5}$											
41.	The focal length of a convex mirror is 15 cm has radius of curvature A) 7.5 cm B) 15 cm C) 30 cm D) 45 cm											
42.	The image formed at infinity by a concave mirror is when object is at:											

	<p>A) the focus B) the center of curvature C) Between the focus and the center of curvature D) Infinity</p>	
43.	<p>The magnification of a plane mirror is:</p> <p>A) 0 B) 2 C) -1 D) 1</p>	
44.	<p>Which of the following laws states that the angle of incidence is equal to angle of reflection</p> <p>A) Snell's Law B) Ohm's Law C) Laws of Reflection D) Fleming's Rule</p>	
45.	<p>The mirror used as rear-view mirror in vehicles is:</p> <p>A) Plane B) Convex C) Concave D) None</p>	
46.	<p>The distance between pole and focus is called:</p> <p>A) Radius B) Focal length C) Diameter D) Aperture</p>	
47.	<p>If I is the current through a resistor R, then the power dissipated across it is</p> <p>A) R/I B) IR² C) I²R D) I+R</p>	
48.	<p>Two resistors R1 and R2 are connected in parallel. The effective resistance is</p> <p>A) R1*R2/(R1+R2) B) R1/(R1+R2) C) R2/(R1+R2) D) R1*R2</p>	
49.	<p>The device used to measure current is:</p> <p>A) Voltmeter B) Ammeter C) Galvanometer D) Ohmmeter</p>	
50.	<p>The magnetic field around a straight conductor is:</p> <p>A) Straight lines parallel to the conductor axis B) Circular loop around the conductor C) Perpendicular to the axis of the conductor D) Radially outward from the conductor</p>	
51.	<p>An element common to all acids is</p> <p>A) Chlorine B) Nitrogen C) Sulphur D) Hydrogen</p>	
52.	<p>Caustic potash on ionisation releases</p> <p>A) hydrogen ions B) sodium ions C) chloride ions D) hydroxide ions</p>	
53.	<p>A common substance that contains acetic acid is</p> <p>A) Vinegar B) Ammonia water C) Salad oil D) Soap</p>	
54.	<p>Fruit juices, such as orange juice, contain:</p>	

	A) Boric Acid C) Sulphuric Acid	B) Citric Acid D) Nitric Acid	
55.	The name of the compound $\text{CH}_3\text{-CH}_2\text{-CO-CH}_3$ is		
	A) Butanal B) Butanol C) Butanone D) Butane		
56.	When MnO_2 reacts with HCl, a bleaching gas is produced. The gas is -----		
	A) Hydrogen B) Oxygen C) Chlorine D) Nitrogen		
57.	Chlorine gas reacts with ----- to form bleaching powder.		
	A) Ca(OH)_2 B) CaCl_2 C) CaCO_3 D) Ca(OAc)_2		
58.	Plants grow best when the soil pH is slightly acidic. Which range of pH is most suited for plant growth?		
	A) 1-3 B) 5.5-7 C) 7-9 D) 11-14		
59.	When water of crystallization is removed from copper sulphate solution, how does the colour of the salt change?		
	A) from blue to red B) from white to red C) from white to blue D) from blue to white		
60.	The international agreement aiming to reduce the emission of greenhouse gases and to combat climate change is known as		
	A) Kyoto Protocol B) Montreal Protocol C) Stockholm Convention D) Vienna Convention		
61.	Which of the following is an example of non-biodegradable waste?		
	A) Food waste B) Plastic C) Paper D) Wood		
62.	The process of converting waste materials to create new products is called?		
	A) Recycling B) Reusing C) Reducing D) Composting		
63.	The major component of CNG is		
	A) Butane B) Hydrogen C) Methane D) Nitrogen		
64.	The biodegradable polymer among the following is ----		
	A) Polyvinyl chloride B) Polyacetylene C) Polysaccharides D) Polyacrylate		
65.	The permissible carbon dioxide level in the atmosphere is -- --- ppm.		
	A) 100 B) 350 C) 500 D) 50		
66.	What is the purpose of bullet points?		

	A) Highlight errors C) Insert images	B) List items clearly D) Save file	
67.	Which option is used to change page orientation? A) Insert B) Layout C) Home D) Review		
68.	In Microsoft Excel, what does dragging the fill handle do? A) Deletes data B) Creates charts C) Formats cells D) Copies or extends data		
69.	What does refreshing a webpage do? A) Deletes it B) Reloads content C) Closes browser D) Opens new tab		
70.	Which is a professional email closing? A) Bye B) Cheers bro C) Regards D) See ya		
71.	What is the purpose of email signature? A) Decoration B) Identify sender details C) Encrypt email D) Delete mail		
72.	Which tone is appropriate in formal email? A) Casual B) Humorous only C) Angry D) Polite and formal		
73.	What is data backup? A) Deleting files B) Copying data for safety C) Formatting system D) Installing apps		
74.	What is spyware? A) Game B) Software that tracks user activity C) Antivirus D) Browser		
75.	What is a pop-up warning? A) Security alert sometimes B) Advertisement always C) Game D) Document		

End of Question paper

ANSWER KEY

**FOR THE WRITTEN TEST CONDUCTED FOR THE POST OF TECHNICIAN
AT NIT GOA ADVERTISED AGAINST THE ADVERTISEMENT NO
NITGOA/RECT/2025/8 DATED 28032025**

Q. No.	Answer Key	Q. No.	Answer Key	Q. No.	Answer Key	Q. No.	Answer Key	Q. No.	Answer key
1	C	16	C	31	A	46	B	61	B
2	B	17	B	32	B	47	C	62	A
3	D	18	A	33	C	48	A	63	C
4	C	19	C	34	B	49	B	64	C
5	B	20	A	35	A	50	B	65	B
6	A	21	C	36	C	51	D	66	B
7	D	22	D	37	D	52	D	67	B
8	C	23	C	38	B	53	A	68	D
9	D	24	B	39	A	54	B	69	B
10	B	25	B	40	D	55	C	70	C
11	C	26	B	41	C	56	B	71	B
12	B	27	A	42	A	57	A	72	D
13	B	28	C	43	D	58	B	73	B
14	A	29	D	44	C	59	D	74	B
15	C	30	C	45	B	60	A	75	A