राष्ट्रीय प्रौद्योगिकी संस्थान दिल्ली

NATIONAL INSTITUTE OF TECHNOLOGY DELHI

(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संस्थान)

(An autonomous Institute under the aegis of Ministry of Education (Shiksha Mantralaya), Govt. of India)

Plot No. FA7, Zone P1, GT Karnal Road, Delhi-110036, INDIA

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QUESTION PAPER FOR THE POST OF TECHNICIAN (ELECTRICAL ENGINEERING)

(PAY LEVEL 03, as per the 7th CPC)

Maximum Marks : 100 Time: 150 Minutes

Name of Candidate : _____

Roll No. : _____

INSTRUCTIONS TO CANDIDATES

a) The Written Examination shall consist of one paper with Part A, Part B, and Part C, carrying 100 marks in total.

b) Part A contains 20 Objective Type questions on General Knowledge, carrying 01 mark each (20 marks).

c) Part B contains 60 Objective Type questions on Domain Knowledge, carrying 01 mark each (60 marks).

d) Part C contains 05 Descriptive Type questions, each carrying 04 marks (20 marks).

e) For Objective Type questions (Part A & B), four options (A, B, C, D) shall be provided and only one correct answer is to be chosen.

f) One (01) mark shall be awarded for each correct answer in Part A and Part B.

g) Negative marking of 0.25 mark shall be applicable for each incorrect answer in Part A and Part B.

h) Unattempted questions in Part A and Part B shall not attract negative marking.

i) No negative marking shall be applicable for Part C (Descriptive questions).

j) The total duration of the Written Examination (Part A, B & C) shall be 2 hours and 30 minutes (150 minutes).

k) Candidates must write their Name, Roll Number and Signature on each page of the Question Paper / Answer Booklet.

l) Candidates must ensure that the Question Paper / Answer Booklet is complete and free from defects before the examination begins.

m) Mobile phones, electronic watches, calculators and all electronic gadgets are strictly prohibited in the examination hall.

n) Cutting, overwriting or use of correction fluid in answers is not permitted.

o) The Question Paper, Answer Sheet(s) and Admit Card must be returned to the Invigilator after completion of the examination.

p) Use of unfair means or misconduct during the examination shall lead to cancellation of candidature.

q) The decision of the Institute authorities shall be final and binding in all matters related to the examination.

r) In case of any discrepancies, the English Version of the Question shall prevail.

अभ्यर्थियों के लिए निर्देश

a) लिखित परीक्षा एक प्रश्न पत्र की होगी, जिसमें भाग-A, भाग-B तथा भाग-C सम्मिलित होंगे, तथा कुल 100 अंक होंगे।

b) भाग-A में सामान्य ज्ञान से संबंधित 20 वस्तुनिष्ठ प्रकार के प्रश्न होंगे, जिनमें प्रत्येक प्रश्न 01 अंक का होगा (कुल 20 अंक)।

c) भाग-B में विषय/डोमेन ज्ञान से संबंधित 60 वस्तुनिष्ठ प्रकार के प्रश्न होंगे, जिनमें प्रत्येक प्रश्न 01 अंक का होगा (कुल 60 अंक)।

d) भाग-C में 05 वर्णनात्मक प्रकार के प्रश्न होंगे, जिनमें प्रत्येक प्रश्न 04 अंक का होगा (कुल 20 अंक)।

e) वस्तुनिष्ठ प्रकार के प्रश्नों (भाग-A एवं भाग-B) के लिए चार विकल्प (A, B, C, D) दिए जाएंगे तथा केवल एक सही उत्तर का चयन करना होगा।

f) भाग-A एवं भाग-B में प्रत्येक सही उत्तर के लिए एक (01) अंक प्रदान किया जाएगा।

g) भाग-A एवं भाग-B में प्रत्येक गलत उत्तर के लिए 0.25 अंक की नकारात्मक अंकन किया जाएगा।

h) भाग-A एवं भाग-B में अनुत्तरित (Unattempted) प्रश्नों पर कोई नकारात्मक अंकन नहीं होगा।

i) भाग-C (वर्णनात्मक प्रश्नों) में नकारात्मक अंकन लागू नहीं होगा।

j) लिखित परीक्षा (भाग-A, भाग-B एवं भाग-C) की कुल अवधि 2 घंटे 30 मिनट (150 मिनट) होगी।

k) अभ्यर्थियों को प्रश्न पत्र / उत्तर पुस्तिका के प्रत्येक पृष्ठ पर अपना नाम, रोल नंबर एवं हस्ताक्षर करना अनिवार्य होगा।

l) अभ्यर्थियों को यह सुनिश्चित करना होगा कि प्रश्न पत्र / उत्तर पुस्तिका पूर्ण एवं किसी भी प्रकार की त्रुटि से मुक्त हो, परीक्षा प्रारंभ होने से पूर्व।

m) परीक्षा कक्ष में मोबाइल फोन, इलेक्ट्रॉनिक घड़ियाँ, कैलकुलेटर तथा सभी प्रकार के इलेक्ट्रॉनिक उपकरण सख्त रूप से वर्जित हैं।

n) उत्तरों में कटिंग, ओवरराइटिंग या करेक्शन फ्लूड का प्रयोग वर्जित है।

o) परीक्षा समाप्ति के पश्चात प्रश्न पत्र, उत्तर पत्रक(ों) तथा प्रवेश पत्र (एडमिट कार्ड) पर्यवेक्षक को वापस करना अनिवार्य होगा।

p) परीक्षा के दौरान अनुचित साधनों का प्रयोग या कदाचार पाए जाने पर अभ्यर्थी की उम्मीदवारी निरस्त कर दी जाएगी।

q) परीक्षा से संबंधित सभी मामलों में संस्थान प्राधिकरणों का निर्णय अंतिम एवं बाध्यकारी होगा।

r) किसी भी प्रकार की विसंगति की स्थिति में, प्रश्न का अंग्रेज़ी संस्करण मान्य होगा।

PART A

Q. No.	Question	Answer
1	The city plans to reduce traffic congestion by increasing the number of buses and limiting car access in busy areas. Question: Which of the following is an assumption the plan relies on? A. Most residents prefer buses over cars. B. Increased bus service will meet the transportation needs of commuters. C. Bus drivers are well-trained and courteous. D. Car usage causes pollution in the city.	B
2	Complete the following series- 4, 16, 36, 64, ? A. 49 B. 81 C. 84 D. 100	D
3	Choose the odd one from the group- A. PQs B. AtB C. mnZ D. DfE	C
4	Arrange the following words in a meaningful order- 1. District 2. Village 3. State 4. City A. 2,4,1,3 B. 2,1,4,3 C. 2,3,4,1 D. 3,2,1,4	A
5	Martyr's Day is on- A. 23rd January B. 26th January C. 30th January D. 15th August	C
6	Header and Footer are used to: A. Insert images B. Add page numbers C. Delete text D. Change font size	B
7	Which feature is used to check spelling errors? A. Thesaurus B. Word Count C. Spell Check D. Mail Merge	C

8	The shortcut key to copy text is: A. Ctrl + X B. Ctrl + C C. Ctrl + V D. Ctrl + P	B
9	Microsoft Word is used for: A. Calculations B. Browsing internet C. Making presentations D. Creating documents	D
10	Which of the following is an input device? A. Printer B. Scanner C. Speaker D. Monitor	B
11	Three persons A, B, and C complete a piece of work in 6 days for which they are paid a sum of Rs. 480.If the efficiency of A, B and C are in ratio 4 : 5 :7, then find the daily income of B? A. Rs. 25 B. Rs. 30 C. Rs. 150 D. Rs. 20	A
12	Namita borrowed Rs 50,000 for 3 years at the rate of 3.5% per annum. Find the simple interest accumulated at the end of 3 years. A. 5500 B. 5000 C. 5250 D. 5150	C
13	**If 0.125% of a number is 2.5, the number is:** **A.** 2000 **B.** 2500 **C.** 3000 **D.** 3200	A
14	Which of the following country is not a member of SAARC? A. Nepal B. Maldives C. Afghanistan D. China	D
15	International Women's Day is on- A. 6th March B. 8th March C. 13th March D. 18th March	B
16	Find out which part of the sentence has error- Sometimes I get angry on her. A. Sometimes B. I get angry C. On her D. No error	C

17	The child burned down (P)/ the house (Q) / by playing (R) / with matches (S) The correct sequence should be- A. PQSR B. RSPQ C. QSPR D. QPSR	B
18	Find out the correctly spelt word- A. Abreviate B. Abbriviate C. Abbreveate D. Abbreviate	D
19	Change the following sentence into indirect narration- Amit said, "The earth moves round the sun". A. Amit told that the earth moves round the sun. B. Amit said that the earth moves round the sun. C. Amit asked that the earth moves round the sun. D. Amit said that the earth moved round the sun.	B
20	Synonym of 'redeem'- A. Extend B. Raise C. Recover D. Fulfil	C

PART B

Sr No	Question
1	In an Arithmetic progression, if a = 3 and d = 2, the 5th term is: A. 9 B. 10 C. 11 D. 13
2	Binomial theorem is used to expand: A. $(a + b)^n$ B. $a^2 + b^2$ C. a – b D. a/b

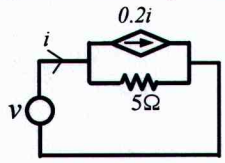
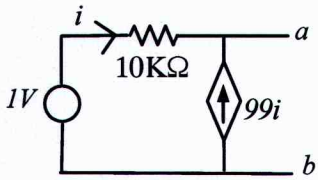
Sr No	Question
3	Determinant is defined only for: A. Rectangular matrix B. Square matrix C. Row matrix D. Column matrix
4	Standard equation of an ellipse is: A. $x^2/a^2 + y^2/b^2 = 1$ B. $x^2 - y^2 = 1$ C. $xy = 1$ D. $y^2 = 4ax$
5	Differentiation of constant is: A. 1 B. 0 C. X D. ∞
6	Maxima and minima are obtained using: A. Integration B. Differentiation C. Matrix D. Algebra

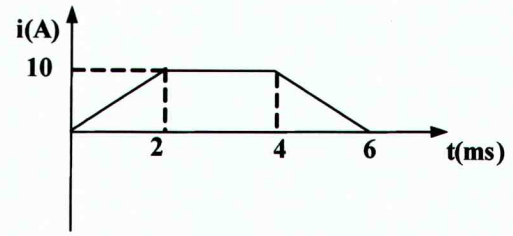
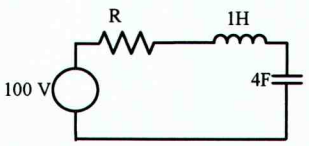
Sr No	Question
7	Partial differentiation is used for: A. Single variable functions B. Constants C. Multi-variable functions D. Linear equations
8	Definite integral has: A. No limits B. Variables only C. Limits D. Constants only
9	Degree of differential equation is: A. Power of highest derivative B. Number of variables C. Constant value D. Matrix rank
10	The dimensional formula of velocity is: A. MLT^{-1} B. LT^{-1} C. L^2T^{-2} D. ML^2T^{-2}

Sr No	Question
11	Dimensional analysis cannot be used to: A. Check correctness of equation B. Convert units C. Find numerical constants D. Derive relations
12	Action and reaction are: A. Equal and opposite B. Equal and same direction C. Different D. None
13	Work is defined as: A. Force × displacement B. Force × velocity C. Force × acceleration D. Force × time
14	Elasticity is property of: A. Gas only B. Liquid only C. Solid D. Vacuum

Sr No	Question
15	Speed of wave = A. Frequency × wavelength B. Wavelength / frequency C. Amplitude × frequency D. Energy × time
16	Value of g near earth surface is: A. 9.8 m/s^2 B. 10 m/s^2 C. 8.9 m/s^2 D. 9.8 m/s
17	Kepler's first law states orbit of planet is: A. Circular B. Parabolic C. Elliptical D. Hyperbolic
18	Heat transfer in vacuum occurs by: A. Conduction B. Convection C. Radiation D. Diffusion

Sr No	Question
19	Coulomb's law deals with: A. Magnetic force B. Gravitational force C. Nuclear force D. Electric force
20	Superconductivity means: A. High resistance B. Zero resistance C. Infinite resistance D. Low voltage
21	Resistance of a conductor depends on: A. Length B. Area C. Material D. All of these
22	Electric field unit is: A. V/m B. A/m C. W/m D. H/m
23	The inductive reactance is given by: A. $X_L = 2\pi fL$ B. $X_L = fL$ C. $X_L = 1/2\pi fL$ D. $X_L = L/f$

Sr No	Question
24	In a purely inductive circuit, power factor is: A. 1 B. 0 C. 0.5 D. Infinite
25	For the circuit given below the resistance seen by the voltage source is  A. 5Ω B. 4Ω C. 8Ω D. 10Ω
26	Thevenin's equivalent for the network given below as seen from the terminals 'a-b' is  A. V_{Th} = 1V, R_{Th} 100 Ω B. V_{Th} = 1V, R_{Th} 10 Ω C. V_{Th} = 1V, R_{Th} 1 KΩ D. V_{Th} = 1V, R_{Th} 2 KΩ

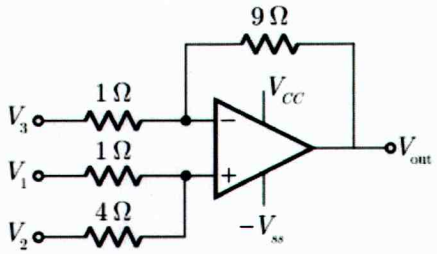
Sr No	Question
27	A current of waveform shown in the figure given below passes through a pure inductance of 3mH. The instantaneous power in Watts, during the interval 0-2 ms is  A. 25000t B. 50000t C. 75000t D. 100000t
28	An impedance of 1+j is connected in parallel to a capacitor of value C_1. The value of C_1 for which a sinusoidal voltage at a frequency of 2rad/sec when connected across the capacitor will supply a current at unity power factor to this parallel circuit, is given by A. 2F B. 1F C. 0.5F D. 0.25F
29	For the circuit shown below, the value of R that will give critical damping is  A. 1Ω B. 2Ω C. 3Ω D. 4Ω

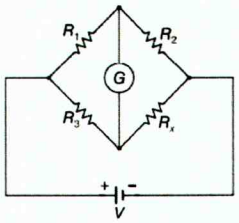
Sr No	Question
30	For a series RLC circuit if the voltage across the resistance, inductance and capacitor is 40V, 70V and 100V respectively then the supply voltage is A. 210 V B. 70 V C. 50 V D. 230 V
31	A transformer possesses a percentage resistance and percentage reactance of 1% and 4% respectively. Its voltage regulation at power factor 0.8 lagging and 0.8 leading would be A. 2.4% and -0.8% B. 3.2% and -1.6% C. 3.2% and -3.2% D. 4.8% and -1.6%
32	When two transformers of different kVA ratings are connected in parallel they share the load in proportion to their respective kVA rating only when their A. efficiencies are equal B. kVA ratings are equal C. per unit impedances are equal D. equivalent impedances are equal
33	The inductance of single-phase two-wire power transmission line per kilometer gets doubled when the A. distance between the wires is doubled B. distance between the wires is quadrupled C. radius of the wires is doubled D. distance between the wires is increased as square of the original distance

Sr No	Question
34	The most appropriate speeds in rpm of generators used in thermal, nuclear and Hydroelectric plants would respectively be A. 3000, 3000 and 1500 B. 3000, 1800 and 300 C. 1500, 1500 and 3000 D. 1000, 900 and 750
35	When there is a change in load of a power station having a number of generator units operating in parallel, the system frequency is controlled by A. adjusting the steam input to the units B. adjusting the field excitation of the generators C. changing the load division between the generators D. injecting reactive power at the station bus-bar
36	An induction motor works on the principle of: A. Electromagnetic induction B. Electrostatic induction C. Chemical reaction D. Photoelectric effect
37	Rotor speed of induction motor is always: A. Equal to synchronous speed B. Less than synchronous speed C. Greater than synchronous speed D. Zero

Sr No	Question
38	The spacing between conductors is increased in high voltage lines to: A. Reduce corona B. Increase voltage C. Increase current D. Increase resistance
39	In a DC three-wire system, the neutral wire carries: A. Full current B. No current always C. Unbalanced current D. Double current
40	A two-phase AC system has phase difference of: A. 60° B. 90° C. 120° D. 180°
41	In a CRO the input coupling corresponding to 'DC' implies A. coupling of the signal being measured directly to the horizontal deflection plate B. coupling the signal being measured directly to the vertical deflection plate C. coupling the signal being measured through a capacitor to the horizontal deflection plate D. coupling the signal being measured through a capacitor to the vertical deflection plate

Sr No	Question
42	The laboratory analog ammeters and voltmeters are generally A. MI type B. electrodynamometer type C. thermal type D. PMMC type
43	A PMMC 0- 10A ammeter is not provided with any controlling mechanism and the moving parts are free to rotate. If a current of 1 A dc is passed through the moving coil, then the instrument A. will read 1 A B. will read 10 A. C. pointer will continuously rotate D. pointer will remain stationary
44	A laboratory measuring instrument has the following symbol present on its dial. The instrument must be of  A. PMMC type B. MI type C. electrodynamometer type D. rectifier type
45	Two milliammeter with full-scale currents of 1mA and 10mA are connected in parallel and they read 0.5mA and 2.5mA respectively. Their internal resistances are in the ratio of A. 1:10 B. 10:1 C. 1:5 D. 5:1

Sr No	Question
46	For the circuit shown below, taking the opamp as ideal, the output voltage V_{out} in terms of the input voltages V_1, V_2 and V_3 is  A. $1.8\ V_1 + 7.2\ V_2 - V_3$ B. $2\ V_1 + 8\ V_2 - 9V_3$ C. $7.2\ V_1 + 1.8\ V_2 - V_3$ D. $8\ V_1 + 2\ V_2 - 9V_3$
47	For the power semiconductor devices IGBT, MOSFET, Diode and Thyristor, which one of the following statements is TRUE? A. All of the four are majority carrier devices. B. All the four are minority carrier devices C. IGBT and MOSFET are majority carrier devices, whereas Diode and Thyristor are minority carrier devices D. MOSFET is majority carrier device, whereas IGBT, Diode, Thyristor are minority carrier devices
48	The approximate input impedance of the op-amp circuit which has R_i=10k, R_f=100k, R_L=10k A. ∞ B. 120k C. 110k D. 10k

Sr No	Question
49	When the Wheatstone bridge shown in the figure is used to find the value of resistor R_x, the galvanometer G indicates zero current when $R_1 = 50\Omega$, $R_2 = 65\Omega$ and $R_3 = 100\Omega$. If R_3 is known with ±5% tolerance on its nominal value of 100Ω, what is the range of R_x in Ohms?  A. [123.50, 136.50] B. [125.89, 134.12] C. [117.00, 143.00] D. [120.25, 139.75]
50	Measurement is the process of: A. Estimating quantity B. Comparing unknown quantity with standard C. Calculating values D. Guessing value
51	Personal mistakes while reading instruments cause: A. Gross errors B. Random errors C. Systematic errors D. Instrumental errors

Sr No	Question
52	Accuracy refers to: A. Repeatability of measurement B. Closeness to true value C. Speed of measurement D. Range of instrument
53	Standards of measurement used in laboratories are: A. Primary standards B. Secondary standards C. Working standards D. Industrial standards
54	Modulation as used in communication is the process of: A. Increasing frequency B. Combining message signal with carrier signal C. Reducing voltage D. Generating DC signal
55	A regulated power supply provides: A. Constant voltage output B. Variable voltage output C. High current only D. AC output

Sr No	Question
56	The speed of a computer is measured in: A. Hertz B. Bytes C. FLOPS D. All of the above
57	CPU stands for: A. Central Processing Unit B. Central Programming Unit C. Control Processing Unit D. Computer Processing Unit
58	The two main types of software are: A. System software and Application software B. Hardware and Firmware C. Input and Output software D. Control and Logic software
59	The main function of an operating system is to: A. Manage computer hardware B. Run applications C. Control memory and devices D. All of the above

Sr No	Question
60	A formula in Excel starts with: A. # B. = C. & D. %

PART C

Sr No	Question
1	Why is an ammeter connected in series in a circuit, while a voltmeter is connected in parallel? Describe in suitable details.
2	Explain the open circuit and short circuit tests on single-phase transformer to determine its parameters.
3	Describe how to verify KVL and KCL experimentally.
4	Explain the working of a rectifier circuit.
5	What are the steps to create a simple Simulink model? Explain.

NATIONAL INSTITUTE OF TECHNOLOGY DELHI

ANSWER KEY FOR THE POST OF TECHNICIAN (ELECTRICAL ENGINEERING)

PART B

Sr No.	Question
1	C
2	A
3	B
4	A
5	B
6	B
7	C
8	C
9	A
10	B
11	C
12	A
13	A
14	C
15	A
16	A
17	C
18	C
19	D
20	B
21	D
22	A
23	A
24	B
25	B
26	A
27	C
28	D
29	A
30	C
31	B

Sr No.	Question
32	C
33	D
34	B
35	A
36	A
37	B
38	A
39	C
40	B
41	B
42	A
43	B
44	C
45	D
46	D
47	D
48	C
49	A
50	B
51	A
52	B
53	B
54	B
55	A
56	D
57	A
58	A
59	D
60	B

राष्ट्रीय प्रौद्योगिकी संस्थान दिल्ली
NATIONAL INSTITUTE OF TECHNOLOGY DELHI
(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संस्थान)
(An autonomous Institute under the aegis of Ministry of Education (Shiksha Mantralaya), Govt. of India)
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दूरभाष/Tele: +9111-33861000, 1001, 1005 वेबसाइट/Website: www.nitdelhi.ac.in

F. No.: NITD/01/Admn/606/2025-26/TEEE Dated: 10.03.2026

NOTICE

Subject: Provisional Result of the Written Test/Examination held on 10.03.2026 for the post of Technician in the Department/Discipline of Electrical Engineering, NIT Delhi (01 ST), advertised vide Advt. No.: 08/2025 – reg.

S. No.	Roll No.	Form No	Part A (20 Marks)	Part B (60 Marks)	Part C (20 Marks)	Marks Obtained in written Test/Examination (100 Marks)
1.	25081302	CNDN10295	11.25	09.75	06.00	27
2.	25081304	CNDN10535	16.75	33.00	10.00	59.75
3.	25081305	CNDN10666	07.00	07.00	03.00	17
4.	25081309	CNDN11468	08.75	16.50	04.00	29.25
5.	25081312	CNDN11966	04.75	08.00	01.00	13.75
6.	25081313	CNDN11999	14.00	17.25	04.00	35.25
7.	25081316	CNDN9444	05.00	09.00	04.00	18
8.	25081317	CNDN9726	13.75	12.50	08.00	34.25
9.	25081311	CNDN11582	09.25	46.25	04.00	59.5

Note:

Minimum Qualifying percentage is 50% i.e. 50 marks out of 100.

The result of the candidates who appeared for the aforementioned post is provisional in nature and may be subject to change upon receipt and examination of representations, if any, against the provisional answer key.

Further, it is hereby informed that only the candidates who are finally shortlisted, as specified at Point No. 2 under (A) of the document dated 12.12.2025, shall be called to appear for the Proficiency Test for the said post (Ref. F. No. NITD/01/Admn/606/2025–26 dated 12.12.2025).

The selection of candidates shall be subject to meeting all the eligibility criteria and successful verification of documents.

Candidates are requested to regularly visit the Institute website for further updates and notifications.

This issues with the approval of the Competent Authority.

Sd/-
(Registrar, NIT Delhi)

राष्ट्रीय प्रौद्योगिकी संस्थान दिल्ली
NATIONAL INSTITUTE OF TECHNOLOGY DELHI
(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संस्थान)
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F. No.: NITD/01/Admn/606/2025-26/TEEE Dated: 10.03.2026

NOTICE

Subject: Provisionally shortlisted candidate for the Proficient Test for the post of Technician in the Department/Discipline of Electrical Engineering, NIT Delhi (01 ST), advertised vide Advt. No.: 08/2025 – reg.

S. No.	Roll No.	Form No	Part A (20 Marks)	Part B (60 Marks)	Part C (20 Marks)	Marks Obtained in written Test/Examination (100 Marks)
1.	25081304	CNDN10535	16.75	33.00	10.00	59.75
2.	25081311	CNDN11582	09.25	46.25	04.00	59.5

Note:

The minimum qualifying percentage for the said post in the ST category is 50%, i.e., 50 marks out of 100, therefore, only 02 candidates have been provisionally shortlisted against the one (01) advertised post, as specified at Point No. 2 under (A) of the document F. No. NITD/01/Admn/606/2025–26 dated 12.12.2025. Accordingly, the above-mentioned candidates have been provisionally shortlisted for the Proficiency Test scheduled to be held on 16.03.2026 (AN).

The above list is provisional in nature and may be subject to change upon receipt and examination of representations, if any, against the provisional answer key.

The selection of candidates shall be subject to meeting all the eligibility criteria and successful verification of documents.

Candidates are requested to regularly visit the Institute website for further updates and notifications.

This issues with the approval of the Competent Authority.

Sd/-
(Registrar, NIT Delhi)