



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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PAPER-I EXAMINATION

DATE: 16.06.2023 (FRIDAY)

QUESTION PAPER FOR THE POST OF TECHNICIAN (EE) (PAY LEVEL – 3)

Maximum Marks: 75

Time: 02 Hour

Name of Candidate: _____ Roll No: _____

INSTRUCTIONS TO CANDIDATES

1. This question paper has 75 questions (General Section: 25 and Post Related Section: 50). Each question carries one mark. There are four choices for answer (A, B, C, D) to each question. Choose the correct answer (one only) for each question and write the answer in the space provided against each question.
2. Candidate must write Name, Roll No. and sign on each page of this booklet.
3. The candidate should check that the booklet does not have any unprinted or torn or missing pages or questions etc. If so, get it replaced with another question paper, before question paper starts.
4. One (1) mark will be awarded for each correct answer. There will be no negative marking.
5. Return the Question Paper cum Answer Sheet to the invigilator after the examination is over.
6. **Mobile, Electronic Watch** and other **Electronic Gadgets** are prohibited in the examination.
7. There should not be any cutting or overwriting in the Answer.
8. Use of Unfair Means in Examination will lead to cancellation of candidature.

Signature of the candidate

Signature of the Invigilator

FOR OFFICE USE

Paper	Max. Marks	Marks Obtained
General	25	
Post Related	50	

Signature of the Evaluator

9.	Four words are given, out of which three are same in a certain way while the rest one is different. Find out the different one. (A) bird (B) kite (C) crow (D) sparrow	A												
10.	If 134 means 'GOOD AND TASTY'; 478 means 'SEE GOOD PICTURES'; 729 means 'PICTURES ARE FAINT'. Then which of the following stand for 'SEE'? (A) 8 (B) 2 (C) 9 (D) 1	A												
11.	A man has Rs. 480 in the denomination of one rupee notes, five rupee notes and ten rupee notes. The number of notes of each denomination is equal. What is the total number of notes that he has? (A) 45 (B) 60 (C) 75 (D) 90	D												
12.	Arrange the words given below in a meaningful sequence. 1. House, 2. Street, 3. Room, 4. Town, 5. District (A) 3, 2, 1, 4, 5 (B) 3, 1, 4, 2, 5 (C) 3, 1, 2, 4, 5 (D) 3, 1, 2, 5, 4	C												
13.	Find the missing character '?' <table border="1" data-bbox="284 1048 475 1281"> <tbody> <tr><td>B</td><td>H</td></tr> <tr><td>C</td><td>E</td></tr> <tr><td>D</td><td>B</td></tr> <tr><td>D</td><td>I</td></tr> <tr><td>E</td><td>F</td></tr> <tr><td>F</td><td>?</td></tr> </tbody> </table> (A) C (B) B (C) H (D) I	B	H	C	E	D	B	D	I	E	F	F	?	A
B	H													
C	E													
D	B													
D	I													
E	F													
F	?													
14.	Change the voice of given sentence, 'Who taught her such things?' (A) Who was she taught such things? (B) She was taught such things by who? (C) By whom she was taught such things? (D) By whom was she taught such things?	D												
15.	In the given sentence identify the part which has the error. 'Everyone knows / that the leopard is / faster / of all animals.' (A) Everyone knows (B) that the leopard is (C) faster (D) of all animals	D												

16.	Choose the one which can be substituted for the given sentence: 'Study of birds' (A) ordogy (B) optology (C) ophthalmology (D) ornithology	D
17.	Correct the given sentence by correcting the underline words. 'They <u>are not beware of</u> all the facts' (A) are not aware for (B) are not aware of (C) are not be aware (D) no correction required	B
18.	Choose the option which best expresses the meaning of the given idioms/ phrase. 'To hit the jackpot' (A) to gamble (B) to make money unexpectedly (C) to inherit money (D) to become bankrupt	B
19.	From the given words form the meaningful sentence? 1. tea 2. have 3. that 4. some 5. before (A) 4, 3, 2, 5, 1 (B) 2, 4, 3, 1, 5 (C) 2, 4, 1, 5, 3 (D) 5, 2, 4, 3, 1	C
20.	Which Institution released the Rural Health Statistics report? (A) NITI Aayog (B) Ministry of Health and Family welfare (C) AIIMS (D) IMA	B
21.	Pradhan Mantri Ujjwala Yojna is related to _____. (A) Skill imparting (B) Financial inclusion (C) LPG connection (D) Electricity connection	C
22.	Kaziranga National Park is famous for which of the following species? (A) LION (B) CROCODILE (C) RHINOCEROS (D) TIGER	C
23.	'Nathu La' is a mountain pass located in which state/ UT? (A) SIKKIM (B) ASSAM (C) JAMMU AND KASHMIR (D) LADAKH	A
24.	Who among the following was the 23 rd Jain Tirthankara? (A) Nami Natha (B) Mahavira (C) Parshvanath (D) Malinath	C
25.	Who among the given has the right to summon the Parliament? (A) Prime Minister (B) President (C) Speaker of Rajya shabha (D) Vice president	B

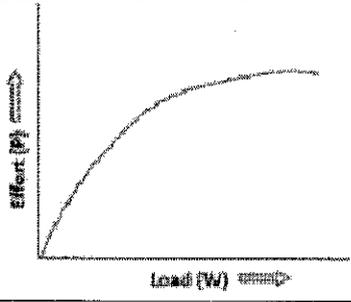
POST RELATED SECTION

QUESTION PAPER FOR THE POST OF TECHNICIAN (EE) (PAY LEVEL 03)

Q. No.	Question	Answer
1.	_____ is the practice and precautions taken to protect valuable information from unauthorised access, recording, disclosure or destruction. A. Network Security B. Database Security C. Information Security D. Physical Security	c) Information Security
2.	Which of the following platforms is used for the safety and protection of information in the cloud? A. AWS B. Cloud workload protection platforms C. One drive D. <u>Cloud security protocols</u>	b)Cloud workload protection platforms
3.	Code Red is a type of _____ A. An Antivirus Program B. A photo editing software C. A computer virus D. A video editing software	c) A computer virus
4.	The network that provides high-speed connectivity or transmission speed is A. MAN B. LAN C. WAN D. Internetwork	b) LAN
5.	Which of the following is an example of a Real Time Operating System? A. MAC B. MS-DOS C. Windows 10 D. Process Control	d)Process Control
6.	In which year India's IT Act came into existence? A. 2000 B. 2001 C. 2002 D. 2003	a) 2000
7.	Which of the following is not a type of mouse? A. Wireless mouse B. Optical mouse C. Mechanical mouse D. Electromechanical mouse	(d) Electromechanical mouse
8.	Which one of the following ecosystems covers the largest area of the earth's surface A. Desert Ecosystem B. Grassland Ecosystem C. Mountain Ecosystem D. Marine Ecosystem	d)Marine Ecosystem
9.	Which of the following is least likely to be an effect of global warming? A. Increased frequency of hurricanes B. Loss of fertile delta region as for agriculture C. Decreased rate of photosynthesis in vegetation D. Shrinking of the polar ice regions	c)Decreased rate of photosynthesis in vegetation

10.	Water that is good enough to drink is called _____ A. potable water B. groundwater C. surface water D. artesian water	A) potable water
11.	The raw material that is sent to, and processed in a waste recycling plant or materials recovery facility which will be used to form new products A. Recyclate B. Recycling material C. Recycled material D. None of the above	a) Recyclate
12.	Who is known as the father of Green revolution? A. Daniel Botkin B. Norman Borlaug C. Robert Bullard D. Wolfgang Sachs	b) Norman Borlaug
13.	Which of the following is not a 'Greenhouse gas'? A. Nitrogen B. Carbon dioxide C. Methane D. Nitrous oxide	a) Nitrogen
14.	What is the role of the workplaces health and safety representative? A. To represent the workers views and concerns on the workplace's OH&S practices to the employer B. To document the workplace's OH&S policies and practices C. To check on whether all workers are complying with the workplace's OH&S policies and practices D. To train and assess all workers in their knowledge of the workplace's OH&S policies and practices	a) To represent the workers views and concerns on the workplace's OH&S practices to the employer
15.	A workplace that has dosimeter readings above 85 dB is an example of what type of hazard? A. Chemical B. Ergonomic C. Physical D. Biological	C) Physical
16.	Current measurements are more dangerous to make with a multimeter than voltage measurements because: A. You must use both hands to take the measurement B. The resulting magnetic fields may be very strong C. The circuit must be broken (opened) D. A fuse protects the voltage measurement ranges, but not current	c) The circuit must be broken (opened)
17.	What does COSHH stand for? A. Control of Substances Hazardous to Health B. Careful of Substances Harmful to Health C. Control of Substances Hurtful to Health D. Control of Spillages Hazardous to Health	a) Control of Substances Hazardous to Health
18.	Which of the following is NOT included in the safety program for achieving good results during the prevention of accidents? A. Development of safe working conditions. B. promotion of employees participation in safety.	c) compensation and medical payment

	C. compensation and medical payment D. corrective action when safety rules are ignored.	
19.	Which is not a type of simple machine? A. Spring B. screw C. Pulley D. wedge	A) Spring
20.	As the load is moved farther from the fulcrum, the effort needed to lift the load. A. Increases B. Decreases C. Is the opposite D. Stays the same	a) Increases
21.	In an ideal machine A. Velocity Ratio > Mechanical Advantage B. Velocity Ratio = 0.5 X Mechanical Advantage C. Velocity Ratio < Mechanical Advantage D. Velocity Ratio = Mechanical Advantage	d) Velocity Ratio = Mechanical Advantage
22.	The law of machine can be expressed for an ideal machine as <div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="margin-bottom: 20px;"> <p>(a)</p> </div> <div style="margin-bottom: 20px;"> <p>(b)</p> </div> <div> <p>(c)</p> </div> </div>	B) <div style="display: flex; align-items: center;"> <p>(b)</p> </div>

	<p>(d)</p> 	
23.	<p>In a simple machine, whose velocity ratio is 30, a load of 2400 N is lifted by an effort of 150 N and a load of 3000 N is lifted by an effort of 180 N. Find the law of machine</p> <p>A. $P = 0.50W + 144$ B. $P = 0.60W + 25$ C. $P = 0.05W + 144$ D. $P = 0.05W + 30$</p>	d) $P = 0.05W + 30$
24.	<p>What is the main factor determining the classification of conductors?</p> <p>(i) Chemical composition (ii) Mechanical strength (iii) Electrical conductivity (iv) Temperature coefficient</p> <p>A. Both ii & iii B. Both iii & iv C. Both i & ii D. Both ii & iv</p>	b) Both iii & iv
25.	<p>When a body falls freely towards earth then its total energy</p> <p>A. Increases B. Decreases C. First increase then decrease D. Remains constant</p>	d) Remains constant
26.	<p>Which of the following is the main field of application of pin type insulator?</p> <p>A. Distribution system B. Transmission system C. HVDC transmission system D. EHV transmission system</p>	a) Distribution system
27.	<p>The output of thermocouple is in the range of</p> <p>A. Volts B. Millivolts C. Amperes D. Milliamperes</p>	b) Millivolts
28.	<p>What will be the phase angle between two alternating waves of equal frequency, when one wave attains maximum value the other is at zero value?</p> <p>A. 0° B. 45° C. 90° D. 180°</p>	c) 90°
29.	<p>What is a superconductor?</p> <p>A. A material with zero electrical conductivity B. A material with extremely high electrical conductivity C. A material that can conduct electricity without resistance at high temperatures D. A material that can conduct electricity without resistance at low temperatures</p>	d) A material that can conduct electricity without resistance at low temperatures

39.	When work is done on a body by an external force, its A. kinetic energy increases B. potential energy increases C. Both kinetic energy and potential energy increases D. Sum of the kinetic energy and potential energy remains constant	c)Both kinetic energy and potential energy increases
40.	If two forces of 20 N towards north and 12 N towards south are acting on an object. The resultant force will be A. 32 N toward north B. 20 N towards north C. 32 N towards south D. 8 N towards north	d)8 N towards north
41.	The velocity of a truck changes form 3 m/s to 5 m/s in 5s. What is the acceleration in m/s ² ? A. 0.4 B. 0.5 C. 4.0 D. 5.0	a) 0.4
42.	At which position in vertical circular motion is the tension in the string minimum? A. At the highest position B. At the lowest position C. When the string is horizontal D. At an angle of 45° from the horizontal	a) At the highest position
43.	A system is at rest, the kinetic energy of the system is A. Infinite B. Greater than zero C. Less than zero D. Zero	d) Zero
44.	At the end of a 14 day period, your utility bill shows that you have used 18 kWh. What is your average daily power? A. 1.286 kWh B. 12.85 kWh C. 535 kWh D. 252 kWh	a)1.286 kWh
45.	A 6 V battery is connected to a 300 Ω load. Under these conditions, it is rated at 40 Ah. How long can it supply current to the load? A. 1 h B. 200 h C. 2,000 h D. 10 h	c)2,000 h
46.	For a body moving in a circular path, the work done by the centripetal force is _____ A. Negative B. Positive C. Constant D. Zero	d) Zero
47.	Let the slant height of a cone be 5m and its radius be 2m. The total surface area of the cone is A. 29□ m ² B. 9□ m ² C. 35□ m ² D. 14 □ m ²	d)14 □ m ²
48.	A tank is made up of the shape of the cylinder with a hemispherical depression at one end. The height of the cylinder is 1.17 m and radius 30 cm. the total surface area of the tank is: A. 2.77 m B. 3.3 m C. 2.18 m D. 3 m	a) 2.77 m

49.	Density of a substance is defined as A. density = Mass \times Volume B. density = Mass/Volume C. density = Volume/Mass D. None of the above	b) density = Mass/ Volume
50.	Mass of wood is 2600 kg and the volume is 5.2 m ³ , its density is A. 500 kg m ⁻³ B. 50 kg m ⁻³ C. 5000 kg m ⁻³ D. 2 \times 10 ⁻³	a) 500 kg m ⁻³