



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS  
TRAINING AND RESEARCH**  
(DEEMED TO BE UNIVERSITY UNDER DISTINCT CATEGORY)  
**CHANDIGARH**

**Ph.D. Entrance Examination - December 2025 Session**

Subject / Branch / Department :	Information Management and Emerging Engineering
Roll No. :	
Candidate Name :	
Date of Examination :	

**Maximum Marks: 25 (There is no negative marking)**

- Notes:** (a) Only one option to be tick-marked out of the four options given as answer  
(b) The Candidate must put his/her signature with date at the bottom of each page  
(c) For any rough work, please use ONLY back-sides of pages which are left blank

Q1. Firewalls are often configured to block _____
(a) UDP traffic
(b) TCP traffic
(c) Sensitive traffic
(d) Best-effort traffic
Q2. Which option is NOT an example of an IoT device?
(a) dishwasher with wireless network connectivity
(b) desktop PC
(c) smart thermostat
(d) smart TV
Q3. The last address of IP address represents
(a) Unicast address
(b) Broadcast address
(c) Network address
(d) None of the above
Q4. Which of these security approaches is feasible for most IOT devices?
(a) Use of antivirus software
(b) Use of internal firewall
(c) Regular installation of product firmware updates
(d) Complete separation of the device from the internet



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Q5. Which among the following is not an example for Application layer protocol?	
(a)	MQTT
(b)	UDP
(c)	HTTP
(d)	CoAP
Q6. Individuals with wide range of skills motivated by religious or political beliefs to create fear by large-scale disruption of computer networks	
(a)	State sponsored hacker
(b)	Hactivist
(c)	Cyber terrorist
(d)	Black hat hacker
Q7. Which of these is an indicator that the website is secure.	
(a)	Bruce Lee photo
(b)	The http://
(c)	The https://
(d)	The https:\\
Q8. Coincidence Detector?	
(a)	AND
(b)	OR
(c)	NAND
(d)	NOR
Q9. Which of the following data types in Python is mutable?	
(a)	Integer
(b)	String
(c)	Tuple
(d)	List
Q10. Seaborn is used for	
(a)	Data Visualization
(b)	Data Manipulation
(c)	Model Evaluation
(d)	Model Training
Q11. What type of Machine Learning Algorithm is suitable for predicting the dependent variable with two different values?	
(a)	Logistic Regression

(b)	Linear Regression
(c)	Multiple Linear Regression
(d)	Polynomial Regression
Q12. If we decrease the input variable by one unit in a simple linear regression model. How many units of the output variable will change?	
(a)	reduced by Intercept
(b)	increased by Intercept
(c)	increased by Slope
(d)	reduced by slope
Q13. Tensorflow library is popular for?	
(a)	Deep learning
(b)	Operating system
(c)	Computer networks
(d)	machine learning
Q14. The Fermi potential of the n-type MOSFET	
(a)	$\phi_{fp} = (kT/q)\ln(N_D/n_i)$
(b)	$\phi_{fp} = (kT/q)\ln(N_A/N_D)$
(c)	$\phi_{fp} = (kT/q)\ln(N_A/n_i)$
(d)	$\phi_{fp} = (kT/q)\ln(n_i/N_A)$
Q15. The depletion mode n-MOS differs from enhancement mode n-MOS in:	
(a)	Drain voltage
(b)	Channel Length
(c)	Switching time
(d)	Gate Voltage
Q16. What is the time complexity of following code: <pre> int a = 0; for (i = 0; i &lt; N; i++) {   for (j = N; j &gt; i; j--) {     a = a + i + j;   } } </pre>	
(a)	$O(N)$
(b)	$O(N \cdot \log(N))$
(c)	$O(N \cdot \sqrt{N})$
(d)	$O(N^2)$



Q17. Which of the following has the highest time efficiency in asymptotic efficiency class?

- (a)  $n$
- (b)  $\log n$
- (c)  $n \log n$
- (d)  $n^2$

Q18. How many passes does an insertion sort algorithm consist of?

- (a)  $N$
- (b)  $N-1$
- (c)  $N+1$
- (d)  $N^2$

Q19. Which of the following is the most essential element in cloud computing by CSA?

- (a) Virtualization
- (b) Multi-tenancy
- (c) Identity management
- (d) Access management

Q20. Which of the following model attempts to categorize a cloud network based on four dimensional factors?

- (a) Cloud Cube
- (b) Cloud Square
- (c) Cloud Service
- (d) Hybrid Cloud

Q21. An advantage of cloud storage is...

- (a) It is not possible for hackers to breach the host's security
- (b) Backups are stored locally on your computer
- (c) Security is managed by your own IT staff
- (d) Security and backups are managed by the host company

Q22. Facilities that house large collections of servers are called \_\_\_\_\_.

- (a) Data Centers
- (b) Computer Processing Plants
- (c) Internet Routing Facilities
- (d) Cloud Computing Centers

Q23. Which of the following is not a layer in the cloud architecture?

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(a)	User/Client Layer
(b)	Network Layer
(c)	Software Layer
(d)	Hardware Resource Layer
Q24. What are the risks of cloud computing?	
(a)	No troubleshooting issues
(b)	Full control over the data
(c)	Storing data without control
(d)	No government intrusion
Q25. Cloud technology has improved educational scenery except	
(a)	Lower cost
(b)	Creation of virtual classroom
(c)	Increase learning time
(d)	Better access to education and training

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## ANSWER KEYS

1. a)
2. b)
3. b)
4. c)
5. b)
6. c)
7. c)
8. a)
9. d)
10. a)
11. a)
12. d)
13. a)
14. a)
15. d)
16. d)
17. d)
18. b)
19. b)
20. a)
21. d)
22. a)
23. c)
24. c)
25. c)

*Macheyee*  
29/8/2025

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