

## A1. Networking Concepts

### ASSESS YOURSELF

1. a. (ii)                      b. (ii)                      c. (iii)                      d. (iv)                      e. (i)
2. a. Node                      b. Modem                      c. Hub                      d. Bandwidth                      e. Server
3. a. F                      b. T                      c. T                      d. F                      e. F
4. a. Gateway                      b. IP Address                      c. MAN (Metropolitan Area Network)  
d. Ring topology                      e. Protocol
5. a. Riya should choose ring topology.  
b. (i) Internet  
(ii) Campus Area Network (CAN)  
c. To check if the NIC is working, go to Device Manager, find the network adapter, and ensure there are no errors or warning signs. You can also restart the computer to test it.
6. a.

#### LAN

- i. LAN stands for Local Area Network.
- ii. It is a digital communication system that interconnects a larger number of computers and other peripheral devices within a radius of less than 1 km.

#### MAN

- i. MAN stands for Metropolitan Area Network.
- ii. Its major disadvantage is that if the root node fails to operate, the entire network is inoperable.

b.

Mesh Topology	Tree Topology
i. In this topology, every single node in a network is connected to all the other nodes or computers in the network.	i. In this topology, nodes are connected as branches of a tree where the hub acts as a root node. It is scalable as it is easier to add new or remove the faulty nodes.
ii. There are minimal chances of network failure in this topology due to redundant connections.	ii. Its major disadvantage is that if the root node fails to operate, the entire network is inoperable.

## A2. Latest IT Trends

### ASSESS YOURSELF

- (iii)
  - (ii)
  - (ii)
  - (ii)
  - (iii)
- Internet
  - Augmented reality
  - Virtual reality
  - Robotic Process Automation
  - E-banking
- T
  - T
  - F
  - T
  - F
- E-shopping
  - Shakey
  - NLP
  - Pattern recognition
  - Intelligent apps
- He can transfer money by e-banking.
  - Lata can book ticket by the help of m-commerce.
  - You would use AR to try out a new pair of glasses virtually. AR overlays digital images (like glasses) onto your real-world view, allowing you to see how they would look on you in real time.



## A3. Artificial Intelligence and Its Domains

### ASSESS YOURSELF

- |         |         |          |          |          |
|---------|---------|----------|----------|----------|
| a. (ii) | b. (ii) | c. (iii) | d. (iii) | e. (iii) |
|---------|---------|----------|----------|----------|
- |      |      |      |      |      |
|------|------|------|------|------|
| a. F | b. T | c. F | d. F | e. T |
|------|------|------|------|------|
- |              |                  |           |               |                    |
|--------------|------------------|-----------|---------------|--------------------|
| a. Narrow AI | b. Data analysis | c. Images | d. Elementary | e. Exploring space |
|--------------|------------------|-----------|---------------|--------------------|
- |              |                    |         |                                    |
|--------------|--------------------|---------|------------------------------------|
| a. Narrow AI | b. Computer vision | c. Data | d. Artificial General Intelligence |
|--------------|--------------------|---------|------------------------------------|
- a. An AI system in a hospital can quickly analyse medical data, improving diagnosis accuracy and speed. However, it may face challenges like data privacy concerns, errors, and the need for human oversight.

b. In customer service, Natural Language Processing can power chatbots that understand and respond to customer queries instantly, improving user experience and reducing wait times, while also boosting operational efficiency.

c. If an AI chatbot gives wrong information to students, it could lead to misunderstandings, poor learning outcomes, and confusion. It's important to double-check the information to ensure accuracy and reliability.

## A4. Fields of Artificial Intelligence

### ASSESS YOURSELF

- |         |          |          |          |         |
|---------|----------|----------|----------|---------|
| a. (ii) | b. (iii) | c. (iii) | d. (iii) | e. (iv) |
|---------|----------|----------|----------|---------|
- |      |      |      |      |
|------|------|------|------|
| a. F | b. F | c. T | d. F |
|------|------|------|------|
- |               |                |                 |          |                |
|---------------|----------------|-----------------|----------|----------------|
| a. Monitoring | b. Interactive | c. Smart Cities | d. Voice | e. Information |
|---------------|----------------|-----------------|----------|----------------|
- |         |                                 |          |             |           |
|---------|---------------------------------|----------|-------------|-----------|
| a. Fyle | b. Banking and financial sector | c. Alexa | d. SOCRATIC | e. Amazon |
|---------|---------------------------------|----------|-------------|-----------|
- a. He is talking about Amazon Alexa.

b. She should purchase smart AC.

c. Smart Cities offer many benefits but there are many challenges in establishing them. Some of them are:

- Financial challenges due to lack of proper funds
- Growing population
- Digital security issues

To address Smart City challenges: secure funding through public-private partnerships, implement smart systems like parking and waste sensors, and ensure digital security with robust monitoring systems and centralised surveillance.

## A5. Introduction to SDGs and Data Science

### ASSESS YOURSELF

- |         |         |         |        |          |
|---------|---------|---------|--------|----------|
| a. (iv) | b. (ii) | c. (ii) | d. (i) | e. (iii) |
|---------|---------|---------|--------|----------|
- |      |      |      |      |      |
|------|------|------|------|------|
| a. T | b. F | c. T | d. F | e. T |
|------|------|------|------|------|
- |             |                         |         |           |               |
|-------------|-------------------------|---------|-----------|---------------|
| a. Big data | b. Organised, Formatted | c. Data | d. Hadoop | e. Components |
|-------------|-------------------------|---------|-----------|---------------|
- |        |           |            |          |
|--------|-----------|------------|----------|
| a. SQL | b. Python | c. Tableau | d. Audio |
|--------|-----------|------------|----------|
- a. AI can improve healthcare in remote areas by enabling accurate disease diagnosis through telemedicine and diagnostic tools, real-time patient monitoring with wearables, and providing accessible medical education through AI-powered platforms.

b. Shalini's company can enhance AI performance by collecting diverse, clean, and labelled datasets, applying feature engineering and data augmentation, and using model evaluation metrics to ensure accurate and reliable customer service.

c. AI in education can be used to achieve quality education goals by developing smart content, providing personalised guidance, round the clock assistance, virtual learning environment and creating more secured online exams.

## A6. Canva

### ASSESS YOURSELF

- |         |          |          |        |         |
|---------|----------|----------|--------|---------|
| a. (ii) | b. (iii) | c. (iii) | d. (i) | e. (ii) |
|---------|----------|----------|--------|---------|



2. a. F                                      b. T                                      c. F                                      d. T                                      e. T
3. a. Elements                              b. Right                                      c. effect filters                              d. Intensity  
e. + (plus icon)
4. a. Design tab and Elements tab                                      b. Edit image tool                              c. + button  
d. Social media and personal                                      e. Text tab
5. a. Riya should choose personal category.  
b. Arjun should follow the given steps:  
Step 1: Click on Uploads tab in the Sidebar.  
Step 2: Click on Upload files button. The Open dialog box will appear on the screen.  
Step 3: Navigate and select the media file you want to upload.  
Step 4: Click on Open button. The selected file will appear in the Sidebar gallery under the relevant category tab.  
Step 5: Click on the media file thumbnail to add that element on your work area.  
c. To add a new slide with the same design, Simran should click on the three dots and then on "Duplicate Page."

