

SNT CA IT TEST

Q.1) Consider the following statements

1. Laser uses infrared light and has a longer wavelength than radio waves.
2. Recently NASA has launched its new Laser Communications Relay Demonstration (LCRD)
3. Optical communications systems are smaller in size, weight, and require less power compared with radio instruments.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.2) With reference to "neutrinos", consider the following statements:

1. Neutrinos are the most widely occurring particle in the universe.
2. A neutrino interacts only via the weak interaction and gravity.
3. Neutrinos are created only during a supernova and the spin-down of a neutron star.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 only
- c) 3 only
- d) 1 and 3 only

Q.3) With reference to Non-Fungible Token (NFT), Consider the following statements:

1. Non-Fungible Token (NFT) is a digital token which is replaceable and interchangeable.
2. NFT works on blockchain and it gives users complete ownership of a digital asset

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) None

Q.4) With reference to Radio-frequency identification (RFID) technology, consider the following statements:

1. It uses electromagnetic fields to automatically identify and track tags attached to objects.
2. Unlike a barcode, the RFID tag does not need to be within the line of sight of the reader.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None

Q.5) Consider the following statements regarding UV radiation:

1. While UV-B and UV-C rays are transmitted through the atmosphere, all UV-A are absorbed by the Earth's ozone layer
2. UV-A rays have the shortest wavelengths
3. UV-C radiation is used to disinfect the air in hospitals, laboratories, and also in water treatment.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 only
- c) 3 only
- d) All

Q.6) Consider the following statement:

1. LTE is considered a technological evolution on both CDMA and GSM standards.
2. It is primarily designed to be a data-only technology.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.7) With reference to National Supercomputing Mission (NSM), Consider the following statements

1. Mission is being implemented by NITI Ayog.
2. It aims to install a vast supercomputing grid comprising more than 70 high-performance computing facilities in research institutions of India.
3. Param Shivay is the first indigenously assembled supercomputer in India.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3
- c) 1 and 3
- d) All

Q.8) Consider the following statements:

1. An Einstein ring is created when light from a galaxy or star passes by a massive object in route to the Earth.
2. Gravitational lensing probes the distribution of matter in galaxies and clusters of galaxies
3. Warping of space-time causes light to bend matter which results in gravitational lensing.

Which of the statements given above is/are

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.9) Organic Light Emitting Diodes (OLEDs) are used to create a digital display in many devices. Which of the following are the advantages of OLED displays over Liquid Crystal displays?

1. OLED displays can be fabricated on flexible plastic substrates.
2. Roll-up displays embedded in clothing can be made using OLEDs.
3. Transparent displays are possible using OLEDs.

Select the correct answer using the codes given below:

- a) 1 and 3 only
- b) 2 only
- c) 1, 2 and 3
- d) None

Q.10) Consider the following statements regarding Qubit

1. It is the quantum computing to the binary digit or bit of classical computing.
2. In a quantum computer, a number of elemental particles such as electrons or photons can be used.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.11) Consider the following statements regarding Software as a service (or SaaS)

1. It is a way of delivering applications over the Internet.
2. The provider manages access to the application, including security, availability, and performance.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None

Q.12) Which of the following is/are applications of Robotics?

1. Injection moulding
2. Lab analysis
3. Quality inspection
4. Packaging

Select the correct answer using the code given below:

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 1, 2 and 4 only
- d) All

Q.13) With reference to the sodium-ion battery, Consider the following statements:

1. The largest advantage of sodium-ion batteries is the high natural abundance of sodium.
2. The sodium-ion batteries are heavier and larger than lithium-ion batteries.
3. The major disadvantage of these batteries is their higher cost of production as compared to Li-Ion batteries.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 2 only
- d) 1,2 and 3 only

Q.14) With reference to Optical fiber, Consider the following statements:

1. Optical Fiber works on the principle of total internal reflection.
2. Optical Fibers are immune to electromagnetic interference.
3. Fiber cables do not conduct electricity.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.15) Which of the following are correct applications of the Raman spectroscopy.

1. Identify pharmaceutical chemicals,

2. Discover counterfeit drugs.

3. Identify pigments in old paintings and historical documents.

4. Detect explosives using lasers from a distance.

Select the correct statement using the code given below:

- a) 1 and 2 only
- b) 2, 3 and 4
- c) 1, 3 and 4
- d) All

Q.16) The recently proposed India's first-ever Dark Sky Reserve is going to be located in Ladakh as a part of

- a) Hemis National Park
- b) Northern Galwan Valley
- c) Changthang wildlife sanctuary
- d) Chumathang Valley

Q.17) With reference to Hypersonic Weapons, which of the following statements is/are not correct?

1. These weapons, operate at speed ranges between Mach 1 to Mach 25.
2. At hypersonic speeds molecules of the atmosphere disassociate into a plasma which makes control and communication easier.
3. A hypersonic version of BrahMos supersonic cruise missile is a completely an indigenous project.

Select the correct answer using the code given below:

- a) None of the above
- b) 1 and 3 only
- c) 1, 2 and 3 only
- d) 1 and 2 only

Q.18) The term 'PARAM Pravega' was recently seen in the news in association with

- a) National Solar Mission
- b) National supercomputing mission
- c) India's first Cattle Genomic Chip
- d) Indian regional navigation satellite system

Q.19) With reference to Near-Field Communication (NFC) technology, consider the following statements:

1. NFC technology is rooted in radio-frequency identification used by retailers to track products.
2. NFC-enabled devices do not require to be present in the close proximity for data transfer to occur.
3. NFC Technology is used in contactless banking cards and to generate contactless tickets for public transport.

Which is correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Q.20) Consider the following statements regarding Non-fungible tokens (NFTs):

1. NFTs are unique cryptographic tokens that exist on blockchain and cannot be replicated.
2. NFTs can eliminate the need for agents and allow sellers to connect directly with their target audiences.
3. NFTs can represent digital assets but not the real-world items like artwork or real estate.

Which is correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.21) Which of the following adopted the Digital Markets Act (DMA) to put an end to unfair practices by tech companies that act as 'gatekeepers' in the online space and was first proposed in 2020 and implemented in 2023

- a) India
- b) USA
- c) European Union
- d) Russia

Q.22) With reference to the Flex fuel vehicles (FFVs), consider the following statements:

1. FFVs are only capable of running on 100 per cent bio-ethanol or a combination of bio-ethanol and petrol.
2. Higher blending of ethanol means higher manufacturing costs which translates to pricier vehicles.
3. All vehicles manufactured in India are tuned for 10 percent ethanol (E10) blending.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.23) With reference to Gamma-ray Bursts, consider the following statements:

1. These are strongest explosions in the universe considered to be generated during the death of massive stars.
2. The short-lived gamma-ray bursts are associated with ultrapowerful supernovas called hypernovas.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None

Q.24) Consider the following statements regarding Additive manufacturing:

1. It creates three-dimensional objects directly from a computer design file. \
2. It includes polymer composites as well as living tissues in manufacturing.
3. It reduces energy use as compared to traditional manufacturing methods.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.25) Consider the following statements

1. OneWeb Global communications network satellites operates in geosynchronous transfer orbit only.
2. Each satellite in the OneWeb Constellation rotates the Earth in 24 hours.
3. The Launch Vehicle Mark 3 Mission has been launched by IN-SPACe to place OneWeb satellites to improve digital connectivity.

Which of the statements given above is/are correct?

- a) 1 and 3 only
- b) 1, 2 and 3 only
- c) None of the above
- d) 2 and 3 only

Q.26) Consider the following statements regarding National Strategy on Additive Manufacturing.

1. It aims to develop 100 new startups in India associated with 3D printing by 2025.
2. Under it, India envisages to achieve more than 5% share in additive manufacturing market globally.
3. The Ministry of Electronics and Information Technology encourages PPP model to promote additive manufacturing materials in India.

Which of the statements given above is/are correct?

- a) 3 only
- b) 1 and 2 only
- c) 2 only
- d) 1, 2 and 3 only

Q.27) Consider the following regarding Solid Fuel Ducted Ramjet Technology

1. This missile propulsion system uses Ramjet engine that relies on a rotating compressor for combustion.
2. The air-to-air missiles using this technology can hit aerial targets at supersonic speeds.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) none

Q.28) Consider the following statements regarding Pacific Islands Forum (PIF)

1. It is a non-governmental organization that aims to enhance cooperation between countries and territories of Oceania.
2. It has observer status in UN General Assembly.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None

Q.29) Consider the following statements regarding Eucalyptus Tree

1. It is native to India.
2. It is less water intensive tree.
3. It can be used to increase ground water table.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) None

Q.30) Consider the following statements regarding Brain Fog, often seen in news

1. It is an inherited neurological disorder that is characterized by lack of mental clarity and forgetfulness.
2. This medical condition becomes prominent in children aged 5 years and above.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.31) Consider the following statements regarding Hyperloop transportation system

1. It uses electric propulsion system to move both freight and passengers at very high speeds.
2. The system consists of enclosed chambers that moves through complete vacuum tunnels.

- c) 1 and 2 only
- d) 1 and 3 only

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both
- d) None

Q.32) Consider the following statements regarding Virtual Private Network or VPN

1. IP address of a user using VPN remains hidden while surfing the internet.
2. It provides for real time encryption to protect user information to be tracked by third parties.
3. By connecting to private servers, it reduces the risk of data leakage.

Which of the statements given above is/are correct?

- a) 2 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.33) Consider the following statements regarding IRASTE Project

1. It is a part of the National Mission on Interdisciplinary Cyber-physical Systems under the Department of Science and technology.
2. It makes use of the Advance Driver Assistance System to identify potential accidents causing scenarios and generate alert for the same.
3. This system helps to identify accident prone spots in roads.

Which of the statements given above is/are correct?

- a) 2 and 3 only
- b) 1 only