

SNT PYQ IT

Q.1) WiMAX is related to which one of the following:

- a) Biotechnology
- b) Space technology
- c) Missile technology
- d) Communication technology

Q.2) Consider the following:

- 1. Bluetooth device
- 2. Cordless phone
- 3. Microwave oven
- 4. Wi-Fi device

Which of the above can operate between 2.4 and 2.5 GHz range of radio frequency band?

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

Q.3) Recently, LASIK (Laser Assisted in Situ Keratomileusis) procedure is being made popular for vision correction. Which one of the following statements in this context is not correct?

- a) LASIK procedure is used to correct refractive errors of the eye.
- b) It is a procedure that permanently changes the shapes of the cornea.
- c) It reduces a person's dependence on glasses or contact lenses.
- d) It is a procedure that can be done on the person of any age.

Q.4) Which among the following do/does not belong/belongs to the GSM family of wireless technologies?

- a) EDGE
- b) LTE
- c) DSL
- d) Both EDGE and LTE

Q.5) What is the difference between Bluetooth and Wi-Fi devices?

- a) Bluetooth uses 2.4GHz radio frequency band, whereas Wi-Fi can use 2.4GHz or 5GHz frequency band.
- b) Bluetooth is used for wireless Local Area Networks (WLAN) only, whereas Wi-Fi is used for wireless wide area network (WWAN) only.
- c) When information is transmitted between two devices using Bluetooth technology, the devices have to be in the line of sight of each other, but when Wi-Fi technology is used the devices need not be in the line of sight of each other.
- d) The statements (a) and (b) given above are correct in this context.

Q.6) What is the difference between a CFL and an LED lamp?

- 1. To produce light, a CFL uses mercury vapour and phosphor while an LED lamp uses semi-conductor material.
- 2. The average life span of a CFL is much longer than of an LED lamp.

3. A CFL is less energy efficient as compared to an LED lamp.

Which of the statements given above is are correct?

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

Q.7) A new optical disc format known as the Blu-ray Disc (BD) is becoming popular. In what way is it different from the traditional DVD?

- 1. DVD supports Standard Definition video while BD supports high definition video.
- 2. Compared to a DVD, the BD format has several times more storage capacity.
- 3. Thickness of BD is 2.4mm while that of DVD is 1.2mm.

Which of the statement given above is/are correct?

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

Q.8) What is “Virtual Private Network”?

- a) It is a private computer network of an organization where the remote users can transmit encrypted information through the server of the organization.
- b) It is a computer network across a public internet that provides users access to their organization’s network while maintaining the security of the information transmitted.
- c) It is a computer network in which users can access a shared pool of computing resources through a service provider.
- d) None of the statements (a), (b) and (c) given above is correct description of “Virtual Private Network”.

Q.9) Graphene is frequently in news recently, what is its importance?

- 1. It is a two-dimensional material and has good electrical conductivity.
- 2. It is one of the thinnest but strongest materials tested so far.
- 3. It is entirely made of silicon and has high optical transparency.
- 4. It can be used as conducting electrodes required for touch screens, LCD and organic LEDs.

Which of the statements given above are correct?

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

Q.10) In addition to fingerprint scanning, which of the following can be used in the biometric identification of person?

- 1. Iris scanning
- 2. Retinal scanning
- 3. Voice recognition

Select the correct answer using the code given below.

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

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

Q.11) With the reference to 'Near Field Communication (NFC) Technology', which of the following statements is/are correct?

1. It is a contactless communication technology that uses electromagnetic radio fields.
2. NFC is designed for use by devices which can be at a distance of even a meter from each other.
3. NFC can use encryption when sending sensitive information.

Select the correct answer using the code given below:

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

Q.12) In the context of modern scientific research, consider the following statements about 'Ice Cube', a particle detector located at South Pole, which was recently in the news:

1. It is the world's largest neutrino detector, encompassing a cubic kilometer of ice.
2. It is a powerful telescope to search for dark matter.
3. It is buried deep in the ice.

Which of the statements given above is/are correct?

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

Q.13) What is 'Greased Lightning-10 (GL-10)', recently in the news?

- a) Electric plane tested by NASA.
- b) Solar-powered two-seater aircraft designed by Japan.
- c) Space observatory launched by China.
- d) Reusable rocket designed by ISRO.

Q.14) With reference to 'Li-Fi', recently in the news, which of the following statements is/are correct?

1. It uses light as the medium for high-speed data transmission.
2. It is a wireless technology and is several times faster than Wi-Fi.

Select the correct answer using the code given below.

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

Q.15) What is the purpose of 'evolved Laser Interferometer Space Antenna (eLISA)' project?

- a) To detect neutrinos.
- b) To detect gravitational waves.
- c) To detect the effectiveness of missile defense system.
- d) To study the effect of solar flares on our communication system.

Q.16) Organic Light Emitting Diodes (OLEDs) are used to create digital display in many devices. What are the advantages of OLED display over Liquid Crystal displays?

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

Select the correct answer using the code given below:

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

Q.17) When the alarm of your smartphone rings in the morning, you wake up and tap it to stop the alarm which causes your geyser to be switched on automatically. The smart mirror in your bathroom shows the day's weather and also indicates the level of water in your overhead tank. After you take some groceries from your refrigerator for making breakfast, it recognizes the shortage of stock in it and places an order for the supply of fresh grocery items. When you step out of your house and lock the door, all lights, fans, geysers and AC machines get switched off automatically. On your way to office, your car warns you about traffic congestion ahead and suggests an alternative route, and if you are late for a meeting, it sends a message to your office accordingly. In the context of emerging communication technologies. Which one of the following term "best applies to the above scenario"?

- a) Border Gateway Protocol
- b) Internet of Things
- c) Internet Protocol
- d) Virtual Private Network

Q.18) In which of the following areas can GPS technology be used?

1. Mobile phone operations
2. Banking operations
3. Controlling the power grids

Select the correct answer using the code given below:

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

Q.19) "3D printing" has applications in which of the following?

1. Preparation of confectionery items
2. Manufacture of bionic ears
3. Automotive industry
4. Reconstructive surgeries
5. Data processing technologies.

Select the correct answer using the code given below;

- a) 1, 3 and 4 only
- b) 2, 3 and 5 only
- c) 1 and 4 only
- d) 1, 2, 3, 4 and 5

Q.20) Which reference to communication technologies, what is/are the difference/differences between LTE (Long-Term Evolution) and VoLTE (Voice over Long Term Evolution)?

1. LTE is commonly marketed as 3G and VoLTE is commonly marketed as advanced 3G.
2. LTE is data only technology and VoLTE is voice only technology.

Select the correct answer using the code given below;

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

Q.21) In the context of digital technologies for entertainment consider the following statements;

1. In Augmented Reality (AR), a simulated environment is created and the physical world is completely shut out.
2. In Virtual Reality (VR), images generated from the computer are projected onto real life objects or surroundings.
3. AR allows individual to be present in the world and improves the experience using the camera of smart-phone or PC.
4. VR closes the world, and transpose an individual, providing complete immersion experience.

Which of the statements given above is/are correct?

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

Q.22) Consider the following statements about a digital signature;

1. An electronic record that identifies the certifying authority issuing it.
2. Used to serve as a proof of identify of an individual to access information on server on internet.
3. An electronic method of signing an electronic document and ensuring that the original content is unchanged.

Which of the statements given above is/are correct?

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

Q.23) In the context of wearable technology, which of the following tasks is/are accomplished by wearable devices?

1. Location identification of a person.
2. Sleep monitoring of a person.
3. Assisting the hearing impaired person.

Select the correct answer using the code given below;

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

Q.24) Consider the following activities;

1. Spraying pesticides on a crop field
2. Inspecting the craters of active volcanoes.
3. Collecting breath samples from spouting whales for DNA analysis.

At the present level of technology, which of the above activities can be successfully carried out by using drones?

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

Q.25) In India, the term “Public Key Infrastructure” is used in the context of;

- a) Digital security infrastructure.
- b) Food security infrastructure.
- c) Health care and education infrastructure.
- d) Telecommunication and transportation infrastructure.

Q.26) With the present state of development, artificial intelligence can effectively do which of the following?

1. Bring down electricity consumption in industrial units.
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-speech conversion
5. Wireless transmission of electrical energy.

Select the correct answer using the code given below:

- a) 1, 2, 3 and 5 only
- b) 1, 3, and 4 only
- c) 2, 4 and 5 only
- d) 1, 2, 3, 4, and 5

Q.27) With reference to visible light communication (VLC) technology, which of the following statements are correct?

1. VLC uses electromagnetic spectrum wavelengths 375 to 780nm.
2. VLC is known as long-range optical wireless communication.
3. VLC can transmit large amounts of data faster than Bluetooth.
4. VLC has no electromagnetic interference

Select the correct answer using the code given below;

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

Q.28) With reference to solar water pumps, consider the following statements;

1. Solar power can be used for running surface pumps and not for submersible pumps.
2. Solar power can be used for running centrifugal pumps and not the ones with piston.

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.29) With reference to street-lighting, how do sodium lamps differ from LED lamps?

1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.
2. As street-lights, sodium lamps have longer life span than LED lamps.
3. The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street – lighting.

Select the correct answer using the code given below;

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

Q.30) Consider the following:

1. Aarogya Setu
2. COWIN
3. DigiLocker
4. DIKSHA

Which of the above are built on top of open-source digital platforms?

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

Q.31) With reference to Web 3.0, consider the following statements:

1. Web 3.0 technology enables people to control their own data.
2. In Web 3.0 world, there can be blockchain based social networks.
3. Web 3.0 is operated by users collectively rather than a corporation

Which of the following given above are correct?

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

Q.32) With reference to “Software as a Service (SaaS)”, consider the following statements:

1. SaaS buyers can customise the user interface and can change data fields.
2. SaaS users can access their data through their mobile devices.
3. Outlook, Hotmail and Yahoo! Mail are forms of SaaS.

Which of the statements given above are correct?

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

Q.33) Which one of the following statements best reflects the idea behind the “Fractional Orbital Bombardment System” often talked about in media?

- a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.
- b) A spacecraft lands on another planet after making several orbital motions.
- c) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.
- d) A spacecraft moves along a comet with the same surface. speed and places a probe on its

Q.34) Which one of the following is the context in which the term “qubit” is mentioned?

- a) Cloud Services
- b) Quantum Computing
- c) Visible Light Communication Technologies
- d) Wireless Communication Technologies

Q.35) Consider the following communication technologies:

1. Closed-circuit Television
2. Radio Frequency Identification
3. Wireless Local Area Network

Which of the above are considered of the Short-Range devices/technologies?

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