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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 recognises 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 terms best applies to the above scenario? (a) Border Gateway Protocol (b) Internet of Things (c) Internet Protocol (d) Virtual Private Network Official key: B.

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Explanation**(a)**

(a) Border Gateway Protocol. **BGP** is the routing protocol that exchanges reachability among autonomous systems on the public internet. It does not describe a house of talking appliances. This option is not the key.

(b) Official key

(b) Internet of Things. The vignette is sensors, actuators and everyday objects (phone, geyser, mirror, fridge, lock, car) exchanging data and triggering actions without a human at each step. That network of things is **IoT**. This option is the official key.

(c)

(c) Internet Protocol. IP is the addressing/packet protocol that underpins the internet; it is a layer, not the name of the smart-home scenario. This option is not the key.

(d)

(d) Virtual Private Network. A **VPN** tunnels and encrypts traffic to a private network. It is a security/remote-access tool, not the architecture of the story. This option is not the key.

Summary

Official key is (b) Internet of Things. The passage chains device-to-device sensing and control: alarm to geyser, fridge to grocer, lock to loads, car to traffic and office. **BGP**, IP and **VPN** are real internet technologies but they name routing, packets and tunnels, not that ecosystem. **IoT** is the covering term in emerging communications. That is why (b) is the Set A key.

Related possible facts

These can be asked in a future Prelims paper.

IoT

Internet-connected sensors and actuators in everyday objects

BGP

Inter-domain routing protocol of the internet

IPv6

Larger address space often cited for IoT scale

VPN

Encrypted tunnel to a private network

M2M

Machine-to-machine communication, a close cousin of IoT

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