

QUIZ: FUN WITH ENGINEERING FACTS

Dr. Ranjit Singh, FIETE, LF-IAFI

We commenced a new feature, entitled ‘Quiz: Fun with Engineering Facts’, since the Vol.14, no.2 issue. It is based on mind-boggling technology advances published in **Vol.16, no.1** issue of the *AKGEC International Journal of Technology*. Aim is to highlight emerging scenario engulfing us. It will be interesting to try these questions: Answers are given at the end.

1. NGSO satellite systems are reshaping global connectivity by providing high-speed, low-latency internet access to even the most remote regions. At what altitude, do they orbit around earth?
(a) 35,786 km; (b) 3000 km; (c) 500-2000 km; (d) None of these
2. The Gain Constant Adjustment technique primarily improves what aspect of circuit performance?
(a) Power efficiency; (b) Signal distortion minimization; (c) Temperature stability; (d) Gain accuracy and control (e) None of these
3. Robotic surgery has proven to be a great potential in reducing human error and increasing accuracy in complicated procedures. What technology is the focus of the paper by Dr Rajesh Dey & Dr Rupali A Mahajan?
(a) IoT sensors and predictive analytics; (b) Block-chain for secure medical records; (c) Virtual reality for surgeon training; (d) 3D-printing of surgical tools; (e) None of these
4. Which term best describes the system called ‘Intellicrash Vehicle Safety System’?
(a) Autonomous route planning for trucks; (b) Fleet management for logistics companies ; (c) In-vehicle entertainment and infotainment system; (d) Crash-avoidance system using real-time sensors (e) All of these (f) None of these
5. For Smart Cities”, which of the following is **not** likely a core focus?
(a) Cyber-physical attacks on infrastructure; (b) Data privacy of citizens in smart cities; (c) Chemical hazards from smart materials ; (d) Sustainability trade-offs in IoT deployment
6. Which network technologies are likely to be used for ‘Advanced Metering Infrastructure’?
(a) WiFi 6 and satellite links ; (b) Mesh networks and NB-IoT (Narrowband IoT); (c) Bluetooth and NFC for household metering; (d) Optical fibre direct to home
7. which of the following is a key AMI-deployment challenge ?
(a) Legacy system integration; (b) Lack of available smart meters; (c) Excessive bandwidth for data transmission; (d) Short battery life of smart meters
8. Which aspect of digitalization in education enhances personalized learning?
(a) Use of adaptive learning algorithms; (b) Standardized manual grading; (c) Chalk-and-talk lectures; (d) Offline book distribution
9. Which application area is reviewed in ‘A Literature Review on the Applications of Machine Learning in Irrigation Engineering’?
(a) Machine learning for urban traffic management; (b) Machine learning for autonomous driving; (c) Machine learning for agricultural irrigation; (d) Improving data compression
10. In robotic surgery systems, predictive analytics helps in which function?
(a) Improving data compression; (b) Forecasting surgical outcomes and complications; (c) Storing patient images offline; (d) Predicting market trends

Answers

(q) 01 '(c) 6 '(v) 8 '(v) L '(q) 9 '(c) S '(p) 4 '(v) E '(p) 7 '(c) 1