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| 1. | The first geostationary satellite launched in 1965 was called |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | ANIK | | [**B.**](javascript:%20void%200;) | EARLY BIRD (Intelsat-I) | | [**C.**](javascript:%20void%200;) | WESTAR | | [**D.**](javascript:%20void%200;) | MOLNIYA |   **Answer:** Option **B** |

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| 2. | Rotation of a geosynchronous satellite means its |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | drift from stationary position | | [**B.**](javascript:%20void%200;) | wobbling | | [**C.**](javascript:%20void%200;) | three-axis stabilization | | [**D.**](javascript:%20void%200;) | three-dimensional stabilization |   **Answer:** Option **B** |

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| 3. | The present total cost per watt of power generation in geosynchronous orbit is nearly Rs. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 20 | | [**B.**](javascript:%20void%200;) | 50 | | [**C.**](javascript:%20void%200;) | 100 | | [**D.**](javascript:%20void%200;) | 5 |   **Answer:** Option **A** |

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| 4. | Noise temperature of Sun is more than \_\_\_\_\_\_\_\_\_\_ °K. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1000 | | [**B.**](javascript:%20void%200;) | 5000 | | [**C.**](javascript:%20void%200;) | 100000 | | [**D.**](javascript:%20void%200;) | 500 |   **Answer:** Option **C** |

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| 5. | A 20 m antenna gives a certain uplink gain at frequencies of 4/6 GHz. For getting same gain in the 20/30 GHz band, antenna size required is metre. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 100 | | [**B.**](javascript:%20void%200;) | 4 | | [**C.**](javascript:%20void%200;) | 1 | | [**D.**](javascript:%20void%200;) | 10 |   **Answer:** Option **B** |
| 6. | The discussing sharing of a communication satellite by many geographically dispersed Earth station, DAMA means |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Demand-Assigned Multiple Access | | [**B.**](javascript:%20void%200;) | Decibel Attenuated Microwave Access | | [**C.**](javascript:%20void%200;) | Digital Analog Master Antenna | | [**D.**](javascript:%20void%200;) | Dynamically-Assigned Multiple Access |   **Answer:** Option **A** |

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| 7. | The angle subtended by earth at geostationary communication satellite is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 17.34° | | [**B.**](javascript:%20void%200;) | 51.4° | | [**C.**](javascript:%20void%200;) | 120° | | [**D.**](javascript:%20void%200;) | 60° |   **Answer:** Option **A** |

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| 8. | The INTELSAT-IV satellite launched in 1974 had two earth coverage antenna and two narrower-angle antennas subtending 4.5°. The signal from narrow-angle antenna was stronger than that from earth- coverage antenna by a factor of |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 17.34/4.5 | | [**B.**](javascript:%20void%200;) | 17.34 x 4.5 | | [**C.**](javascript:%20void%200;) | (17.34/4.5)2 | | [**D.**](javascript:%20void%200;) | (17.34/4.5)4 |   **Answer:** Option **C** |

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| 9. | A transponder is a satellite equipment which |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | receives a signal from Earth station and amplifies | | [**B.**](javascript:%20void%200;) | changes the frequency of the received signal | | [**C.**](javascript:%20void%200;) | retransmits the received signal | | [**D.**](javascript:%20void%200;) | does all of the above-mentioned functions |   **Answer:** Option **D** |

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| 10. | A geosynchronous satellite |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | has the same period a that of the Earth | | [**B.**](javascript:%20void%200;) | has a circular orbit | | [**C.**](javascript:%20void%200;) | rotates in the equatorial plane | | [**D.**](javascript:%20void%200;) | has all of the above |   **Answer:** Option **D** |
| 11. | To make antenna more directional, either its size must be increased or |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | the number of its feed horns must be increased | | [**B.**](javascript:%20void%200;) | the frequency of its transmission must be increased | | [**C.**](javascript:%20void%200;) | its effective isotropic radiated power (EIRP) must be increased | | [**D.**](javascript:%20void%200;) | its footprint must be increased |   **Answer:** Option **B** |

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| 12. | India's first domestic geostationary satellite 1NSAT-IA was launched on 10th April 1982 from |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | USSR | | [**B.**](javascript:%20void%200;) | USA | | [**C.**](javascript:%20void%200;) | UK | | [**D.**](javascript:%20void%200;) | UP |   **Answer:** Option **B** |

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| 13. | Satellite launch sites are invariably located on Eastern seaboards to ensure that |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | launch takes place eastward | | [**B.**](javascript:%20void%200;) | expenditure of propulsion fuel is reduced during plane changing | | [**C.**](javascript:%20void%200;) | the satellite achieves circular orbit quickly | | [**D.**](javascript:%20void%200;) | spent rocket motor and other launcher debris falls into the sea |   **Answer:** Option **D** |

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| 14. | The owner of a communication satellite is usually required to keep the spacecraft on station at its assigned place in the geosynchronous orbit with an accuracy of \_\_\_\_\_\_\_\_\_\_ degree. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 0.1 | | [**B.**](javascript:%20void%200;) | 1.0 | | [**C.**](javascript:%20void%200;) | 2.0 | | [**D.**](javascript:%20void%200;) | 0.5 |   **Answer:** Option **A** |

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| 15. | The number of days when Earth's shadow falls on a geosynchronous satellite is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 88 | | [**B.**](javascript:%20void%200;) | 277 | | [**C.**](javascript:%20void%200;) | 5 | | [**D.**](javascript:%20void%200;) | 10 |   **Answer:** Option **A** |
| 16. | Of the four INSAT-I satellites planned by India so for, only \_\_\_\_\_\_\_\_\_\_ has proved to be successful. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | INSAT-IA | | [**B.**](javascript:%20void%200;) | INSAT-IB | | [**C.**](javascript:%20void%200;) | INSAT-IC | | [**D.**](javascript:%20void%200;) | INSAT-ID |   **Answer:** Option **B** |

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| 17. | Radio broadcasting is a familiar example of |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | space multiplexing | | [**B.**](javascript:%20void%200;) | time multiplexing | | [**C.**](javascript:%20void%200;) | frequency multiplexing | | [**D.**](javascript:%20void%200;) | none of the above |   **Answer:** Option **C** |

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| 18. | As compared to 17.34° antenna, the total increase in the signal relayed by 4.5° antenna of INTELSAT-IV is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 14.85 | | [**B.**](javascript:%20void%200;) | 220 | | [**C.**](javascript:%20void%200;) | 78 | | [**D.**](javascript:%20void%200;) | 3.85 |   **Answer:** Option **B** |

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| 19. | Which one of the following statements regarding DSI is wrong? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | It is a digital form of TASI | | [**B.**](javascript:%20void%200;) | Though it is more efficient than TASI, it is much slower | | [**C.**](javascript:%20void%200;) | A speaker has to wait (it at all) for only a few milliseconds for reallocation of channel | | [**D.**](javascript:%20void%200;) | It has increased the capacity of satellite channels by a factor of 2.2 or more with out degrading speech quality |   **Answer:** Option **B** |

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| 20. | Which one of the following statements regarding compandor is FALSE? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | It compresses the higher-amplitude parts of a signal before modulation and expands them back to normal again after demodulation. | | [**B.**](javascript:%20void%200;) | It gives preferential treatment to the weaker parts of the signal | | [**C.**](javascript:%20void%200;) | For weaker signals it gives a poor ratio of signal strength to quantizing error | | [**D.**](javascript:%20void%200;) | Weaker signals, traverse more quantum steps than they would do otherwise and so quantizing error is reduced. | |
| 21. | The quality of a space-link is measured in terms of the \_\_\_\_\_\_\_\_\_\_ ratio. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | C/N | | [**B.**](javascript:%20void%200;) | S/N | | [**C.**](javascript:%20void%200;) | G/T | | [**D.**](javascript:%20void%200;) | EIRP |   **Answer:** Option **A** |

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| 22. | The useful operational life of INSAT-IB (launched in 1983) is expected to end by |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1992-93 | | [**B.**](javascript:%20void%200;) | 1991-92 | | [**C.**](javascript:%20void%200;) | 1989-90 | | [**D.**](javascript:%20void%200;) | 1993-94 |   **Answer:** Option **C** |

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| 23. | At present, the radio-frequency band mainly used by most satellites is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | EHF | | [**B.**](javascript:%20void%200;) | UHF | | [**C.**](javascript:%20void%200;) | VHF | | [**D.**](javascript:%20void%200;) | SHF |   **Answer:** Option **D** |

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| 24. | Orbital disturbances of a geosynchronous satellite are caused by the |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | moon | | [**B.**](javascript:%20void%200;) | sun | | [**C.**](javascript:%20void%200;) | earth | | [**D.**](javascript:%20void%200;) | all of the above |   **Answer:** Option **D** |

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| 25. | Which one of the following statement is correct? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Satellite spacing is not affected by the bandwidth of the transmitting earth station | | [**B.**](javascript:%20void%200;) | Beamwidth is independent of antenna size and frequency band used | | [**C.**](javascript:%20void%200;) | The width of a beam in space is inversely proportional to the width of the transmitting antenna | | [**D.**](javascript:%20void%200;) | Use of high-frequency bands permits less number of satellites to share the orbit |   **Answer:** Option **C** |
| 26. | In a stop-and-wait ARQ system, the transmitting terminal |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | waits for positive or negative acknowled-gement from the receiving terminal after sending a block | | [**B.**](javascript:%20void%200;) | sends another block if positive acknowledge is received through ACK character | | [**C.**](javascript:%20void%200;) | resends the previous block if negative acknowledgement is received through a NAK character | | [**D.**](javascript:%20void%200;) | does not wait for acknowledgement after sending a block |   **Answer:** Option **D** |

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| 27. | A geostationary satellite is one which |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | hangs motionless in space about 36000 km about Earth | | [**B.**](javascript:%20void%200;) | travels around the Earth in 24 hours | | [**C.**](javascript:%20void%200;) | remains stationary above the Earth | | [**D.**](javascript:%20void%200;) | appears stationary to everybody on Earth |   **Answer:** Option **D** |

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| 28. | The geostationary communication satellite APPLE is parked in the equatorial orbit at |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 102° E longitude over Sumatra | | [**B.**](javascript:%20void%200;) | 90° E longitude over Bangladesh | | [**C.**](javascript:%20void%200;) | 74° E longitude over India | | [**D.**](javascript:%20void%200;) | 67° E longitude over Pakistan |   **Answer:** Option **A** |

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| 29. | Power received from Sun per m2 surface area of a geosynchronous satellite in nearly \_\_\_\_\_\_\_\_\_\_ watt. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 100 | | [**B.**](javascript:%20void%200;) | 500 | | [**C.**](javascript:%20void%200;) | 2000 | | [**D.**](javascript:%20void%200;) | 1000 |   **Answer:** Option **D** |

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| 30. | A certain sound has 10000 times more energy than another sound. The number of times it would sound stronger to a listener is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 40 | | [**B.**](javascript:%20void%200;) | 10000 | | [**C.**](javascript:%20void%200;) | 100 | | [**D.**](javascript:%20void%200;) | 10 |   **Answer:** Option **A**   |  |  | | --- | --- | | 31. | While keeping the down-link frequency constant, the diameter of a satellite antenna is reduced by half. To offer the same EIRP over the increased coverage area, the *RF* output power has to be increases by a factor of | | |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 2 | | [**B.**](javascript:%20void%200;) | 4 | | [**C.**](javascript:%20void%200;) | 8 | | [**D.**](javascript:%20void%200;) | 16 |   **Answer:** Option **B** |  |  |  | | --- | --- | | 32. | A communication satellite is a repeater between | | |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | a transmitting station and a receiving station | | [**B.**](javascript:%20void%200;) | a transmitting station and many receiving station | | [**C.**](javascript:%20void%200;) | many transmitting station and many receiving station | | [**D.**](javascript:%20void%200;) | none |   **Answer:** Option **C** |  |  |  | | --- | --- | | 33. | The ending part of the popular teleserial Mahabharat will be beamed to the viewers | | |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | WESTAT | | [**B.**](javascript:%20void%200;) | INSAT-IC | | [**C.**](javascript:%20void%200;) | ARABSAT | | [**D.**](javascript:%20void%200;) | INSAT-ID |   **Answer:** Option **C** |  |  |  | | --- | --- | | 34. | The most effective anti jamming technique is | | |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | frequency hopping | | [**B.**](javascript:%20void%200;) | spread-spectrum modulation | | [**C.**](javascript:%20void%200;) | key leverage | | [**D.**](javascript:%20void%200;) | once-only key |   **Answer:** Option **B** |  |  |  | | --- | --- | | 35. | For satellite communication, standard Earth stations have antenna diameters in the range of \_\_\_\_\_\_\_\_\_\_ metre. | | |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 27.5 to 30 | | [**B.**](javascript:%20void%200;) | 10 to 15 | | [**C.**](javascript:%20void%200;) | 30 to 50 | | [**D.**](javascript:%20void%200;) | 5 to 10 |   **Answer:** Option **A** | |

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|  | The Sun blots out the transmission of a geosynchronous satellite twice a year when satellite passes directly in front of it. This outage lasts for about |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 10 minutes on 5 consecutive days | | [**B.**](javascript:%20void%200;) | 5 minutes on 10 consecutive days | | [**C.**](javascript:%20void%200;) | 30 minutes for 5 consecutive days | | [**D.**](javascript:%20void%200;) | one hour for 5 consecutive days |   **Answer:** Option **A** |

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| 37. | In satellite communication, frequency modulation is used because satellite channel has |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | small bandwidth and negligible noise | | [**B.**](javascript:%20void%200;) | large bandwidth and severe noise | | [**C.**](javascript:%20void%200;) | maximum bandwidth and minimum noise | | [**D.**](javascript:%20void%200;) | high modulation index |   **Answer:** Option **B** |

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| 38. | In the case of a 70-MHz IF carrier for a transponder bandwidth of 36 MHz, energy must lie between MHz. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 34 and 106 | | [**B.**](javascript:%20void%200;) | 52 and 88 | | [**C.**](javascript:%20void%200;) | 106 and 142 | | [**D.**](javascript:%20void%200;) | 34 and 142 |   **Answer:** Option **B** |

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| 39. | Which of the following factor does NOT contribute to the drift of a geostationary satellite from its stationary position in space? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Pressure of solar radiations | | [**B.**](javascript:%20void%200;) | Gravitational changes due to Sun and Moon | | [**C.**](javascript:%20void%200;) | Oblateness of the Earth | | [**D.**](javascript:%20void%200;) | Weight of the satellite |   **Answer:** Option **D** |

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| 40. | In communication satellites, the up-link normally operates at a higher frequency than the down-link because it |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | gives a narrow beam shining into space | | [**B.**](javascript:%20void%200;) | results in lesser signal attenuation | | [**C.**](javascript:%20void%200;) | gives better beam-shaping | | [**D.**](javascript:%20void%200;) | is easier to polarize a high frequency beam |   **Answer:** Option **A** |
| 41. For global communication, the number of satellites needed is |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1 | | [**B.**](javascript:%20void%200;) | 3 | | [**C.**](javascript:%20void%200;) | 10 | | [**D.**](javascript:%20void%200;) | 5 |   Answer: Option B |