

SECTION A

*This section contains 30 questions. Answer **all**.*

1. Section 33 of the Telecommunication Order 2001 states that any person who establishes, installs, maintains, provides or operates a telecommunication system or service within Brunei Darussalam without a license granted shall be guilty of an offence. Which of the following statement of conviction is CORRECT should a person do commit an offence?
 - A. Any person guilty of an offence under this section shall be liable on conviction to a fine not exceeding \$10,000, imprisonment for a term not exceeding 1 year or both.
 - B. Any person guilty of an offence under this section shall be liable on conviction to a fine not exceeding \$50,000, imprisonment for a term not exceeding 3 years or both.
 - C. Any person guilty of an offence under this Order or any regulations made thereunder for which no penalty is expressly provided shall, in addition to the forfeiture of any article seized, be liable on conviction to a fine not exceeding \$10,000, imprisonment for a term not exceeding 3 years of both.
 - D. No fine is liable at all.

2. With regards to AITI Radio Amateur rules and conditions, amateur radio equipment is only permitted to be operated
 - A. Within the frequency range stated in the license
 - B. Within the permitted range of frequency in the radio equipment
 - C. One time only
 - D. Using a radio transceiver

3. In what Region and Zone is Brunei Darussalam located?
 - A. Region 28, Zone 3
 - B. Region 38, Zone 2
 - C. Region 3, Zone 38
 - D. Region 3, Zone 28

4. All operations regarding station usage need to be recorded in a log book. What details are required to be included in the log book for amateur radio operators everytime they are on air?
 - A. Date, frequency band and emission, station callsign which with you are communicating, start and end of conversation time, signal report, QSL
 - B. Date, frequency band and emission, power output, conversation time, signal report, statement.
 - C. Date, station callsign which with you are communicating with, frequency band and emission.
 - D. Date, station which with you are communicating with, frequency band, emission and power output

5. For a foreigner to obtain a temporary Amateur Radio Licence in Brunei Darussalam, what are the requirements?
 - A. A local guarantor, applicant must produce a valid foreign amateur radio licence and a copy of applicant's valid passport.
 - B. Applicant has to sit for AITI amateur radio exam.
 - C. Foreigners are not allowed to hold a local amateur radio licence.
 - D. Foreign guarantor, applicant must produce a valid foreign amateur radio licence and a copy of applicant valid passport.

6. Is an approved amateur radio equipment allowed to be modified?
 - A. With permission from the Royal Brunei Police Force and Royal Brunei Custom and Excise.
 - B. If the equipment is modified by a certified dealer.
 - C. Any approved equipment is not allowed to be modified, without written approval from AITI.
 - D. Once you have obtained a licence and type approval for your equipment, you can immediately modify.

7. The Amateur Radio License categories in Brunei are:
 - A. Novice, Advances
 - B. Standard, Advanced
 - C. Class 1, Class 3
 - D. Novice, Technician

8. The maximum power output for Very High Frequency and High Frequency
 - A. 10W
 - B. 400W
 - C. 150W
 - D. 50W

9. "QTH?" is the Q-code for
 - A. Where is your location?
 - B. Who is calling me?
 - C. have you a message for me?
 - D. Are you busy?

10. Salleh and his son, Elham, is having an amateur radio conversation. Which set of conversations below should they avoid:
- A. Religion, Business, Politics, Racial and Ethnic Slurs.
 - B. Hobbies, Education, and Entertainment.
 - C. Sport, Personal details and Socializing.
 - D. Weather, Location and Q-Codes.
11. What is the correct way to make a contact on an Amateur Radio?
- A. Say your callsign and then the callsign station you want to contact three times
 - B. Say the other operator's name, then your callsign three times
 - C. Say the callsign of the station you want to contact, then your callsign
 - D. Say, "Mayday, Mayday" then your callsign
12. Station, Log book and license are required for random inspection done by
- A. A certified Radio Organization
 - B. Royal Brunei Police Force
 - C. Authority for Info-communications Technology Industry (AITI)
 - D. Registrar of Companies
13. If you purchase amateur radio equipment from outside the country, what is the right thing to do upon arrival at the custom's control post?
- A. Bring in the said equipment without notifying Royal Brunei Customs and Excise official
 - B. Pay import tax for the equipment
 - C. Declare the equipment to the Royal Brunei Customs and Excise officials
 - D. Bring the equipment directly to AITI officials
14. What should be done when installing an antenna on the surface of the earth?
- A. The antenna should not be installed higher than you
 - B. The antenna should be installed not to expose people to radio frequency radiation from the antenna's transmission
 - C. The antenna can be installed on a wet surface
 - D. The antenna need to be painted to avoid human being and animals from colliding into the antenna

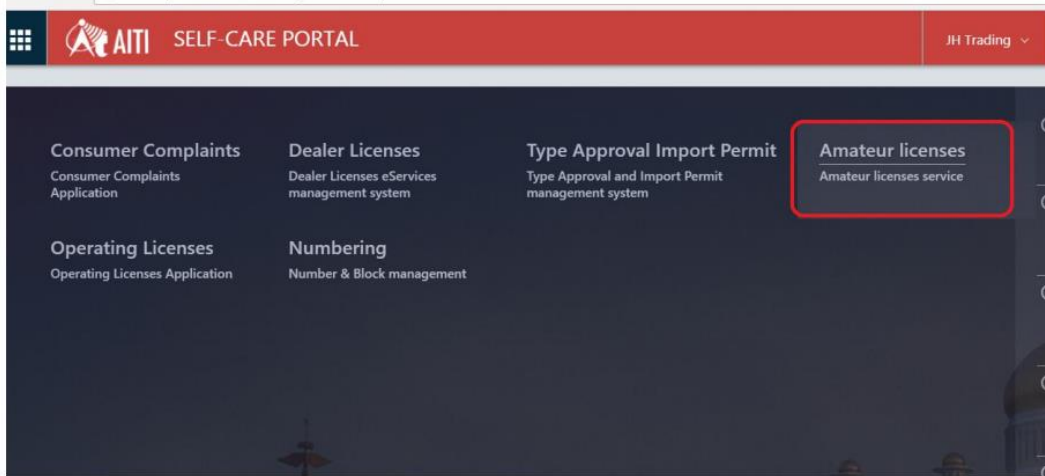
15. What is the frequency band used by an amateur radio for a "Very High Frequency" in Brunei Darussalam?
- A. 144.000 kHz – 148.000 kHz
 - B. 144.000 MHz – 148.000 MHz
 - C. 137.000 MHz – 156.000 MHz
 - D. 137.000 kHz – 148.000 kHz
16. To avoid a direction high gain antenna from directing its excess RF power to the people in nearby buildings, what must be done?
- A. Place the antenna higher than surrounding buildings.
 - B. All equipment must be properly grounded.
 - C. Place the antenna lower or equal height to the surrounding buildings.
 - D. None of the above
17. An Amateur Radio Licensee should renew their licence every?
- A. No renewal required
 - B. 3 months
 - C. 12 months
 - D. 24 months
18. You installed a 144MHz transceiver for marine operation on your boat to operate as an Amateur Radio mobile station. Under which of the following conditions is operating permitted?
- A. Not permitted at all
 - B. Anywhere, provided the boat remains in Brunei Darussalam waters
 - C. On inland waterways and river but not in docks, estuaries or harbours
 - D. Only with special permission from the AITI
19. If you are in contact with another station and you hear an emergency call for help on your frequency, what should you do?
- A. Stop your QSO immediately and take the emergency call
 - B. Tell the calling station that the frequency is in use
 - C. Call your local Fire and Rescue Department and inform them of the emergency
 - D. Direct the calling station to the nearest emergency net frequency
20. What type of operation which transmit and receive on a different frequency?
- A. Simplex Operation
 - B. Multiplex Operation
 - C. Duplex Operation
 - D. All of the above

21. A station 'Callsign' is sent for the purpose of identification at the start of transmission and end of transmission. It should be repeated
- A. Within the first 30 minutes
 - B. Once after the first 15 minutes
 - C. Every 15 minutes
 - D. Once within 60 minutes
22. Which of the following must be true before an amateur station may provide information during a disaster?
- A. The information must directly relate to the immediate safety of human life or protection of property.
 - B. When AITI declares a state of emergency.
 - C. The exchange of such information must be approved by a local emergency preparedness official.
 - D. None of the above.
23. Which of the statement below is CORRECT regarding installation of amateur radio equipment in a vehicle?
- A. Radio equipment can be installed in any vehicle without any valid amateur radio license.
 - B. Installation of radio equipment and antenna is not required to meet the specifications and regulations of road and safety code.
 - C. One unit of licensed radio equipment can be transferred anytime from one to another vehicle.
 - D. One unit of licensed radio equipment is only allowed for one vehicle unless stated otherwise in the license.
24. In what circumstances can an amateur radio broadcast information to the public?
- A. When an amateur radio operator is paid
 - B. It is entirely prohibited
 - C. When broadcasting is less than one hour
 - D. When broadcasting is more than 15 minutes
25. All amateur radio equipment in a station has to be maintained and used
- A. Not to interfere with other radio-communication services
 - B. With support from IEE
 - C. Approximately 20% of the approved maximum power
 - D. With complete discretion by AITI officials

26. What is the correct callsign prefix for Standard and Advanced Class Amateur Radio Licence respectively?
- A. V85 and V89
 - B. V89 and V85
 - C. V8N and V8M
 - D. V8B and V8A
27. Under what circumstances can an Amateur Operator transmit outside amateur bands?
- A. To assist with a distress situation
 - B. When assisting with a community run event
 - C. No circumstances
 - D. To make brief test
28. Which of the following uses the International Phonetic Alphabet?
- A. Alpha, Norway, Delta
 - B. Denmark, Oscar, Gordon
 - C. Alpha, Charlie, Tango
 - D. Bravo, Uniform, Gordon
29. What is the validity period of an Import Permit for an Amateur Radio equipment from the date of issue?
- A. 2 weeks
 - B. 2 months
 - C. 1 week
 - D. 1 year
30. For special event such as Jamboree On The Air, AITI allocate callsign in the following prefix (*November 2011, Sect. A, Q.27*)
- A. V84S
 - B. V85S
 - C. V88S
 - D. V89S

SECTION B

31. AITI implemented an online service (online.aiti.gov.bn) for licence applications since 30th May 2017. What is the main function of the highlighted box?
- A. Applying for radio amateur licence
 - B. Applying for apparatus licence
 - C. To complain interference
 - D. Applying for job vacancy in AITI.

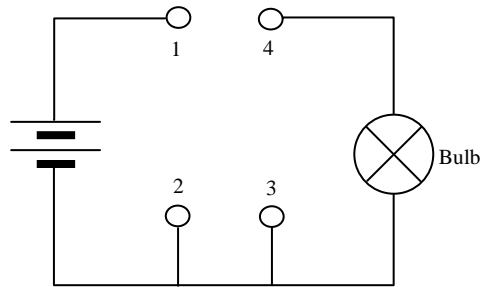


32. What is the most serious risk when working inside equipment using high voltages?
- A. Such equipment are more likely to develop a fault.
 - B. Spare parts are harder to obtain.
 - C. High voltage equipment are more complicated and harder to repair.
 - D. There is a risk of receiving a fatal electric shock.
33. Which instrument would you use to measure an electric current?
- A. Ammeter
 - B. Thermometer
 - C. Voltmeter
 - D. Ohmmeter
34. Which of the following of the components is used to make RF filters?
- A. Diode and Resistor
 - B. Zener Diode and Zeti Diode
 - C. Capacitor and LEDs
 - D. Inductors and Capacitor

35. If 'c' is speed of light, 'f' is frequency and $c=f\lambda$, what does λ represent?

- A. wavelength
- B. time
- C. amplitude
- D. velocity

36. To allow the bulb in the diagram to light correctly, a wire should be connected between points



- A. 1 and 4
- B. 1 and 2
- C. 1 and 3
- D. 3 and 4

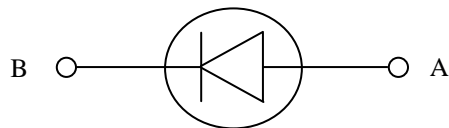
37. An electric current passing through a wire will produce around the conductor.

- A. An electric field
- B. A superconductor
- C. A semiconductor
- D. A magnetic field

38. Which components can amplify a small signal using low voltages?

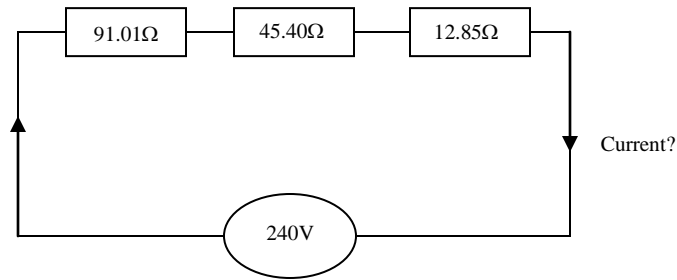
- A. PNP transistor
- B. Transformer
- C. Mega Cell Battery
- D. Resistor

39. In the diagram below, indicate the current flow in the semi-conductor diode.



- A. From A to B
- B. From B to A
- C. From A to B and B to A
- D. None of the above

40. What is the Current and the total Resistance of three resistors connected in series as shown below?



- A. 149.26 A and 1.61 Ohms
- B. 1.61 A and 149.26 Ohms
- C. 622 mA and 389.26 Ohms
- D. 622 A and 389.26 Ohms

41. Which one of the following is the correct application of the frequency 7040 kHz in amateur radio?

- A. Long distance communication ie. Hawaii
- B. Short distance communication ie. Borneo Island
- C. Repeaters
- D. None of the above

42. What is the Unit(s) for each of the components (Capacitor, Ammeter, Resistor, Inductor) respectively?

- A. Coulombs, Meter, Ohm, Henry
- B. Coulombs, Ampere, Ohm, Farad
- C. Farad, Ampere, Resistance, Henry
- D. Farad, Ampere, Ohm, Henry

43. The relationship of 'Charge' is

- A. $Q = V/R$
- B. $Q = C/V$
- C. $Q = CV$
- D. $Q = C^2V$

44. Define which antenna comprises of a center-fed driven element for transmitting or receiving radio frequency energy?
- A. Omni-directional Antenna
 - B. Yagi Antenna
 - C. Straight wire antenna
 - D. Half wavelength dipole
45. Which of the following principles is used when working with almost any electronic circuit?
- A. Coulomb's Law
 - B. Cole's Law
 - C. Ohm's Law
 - D. Tesla's Law
46. Which of the following is true about Capacitor?
- A. It is an electrical device that resists the flow of current (Resistor)
 - B. A device that only allows a current to flow in one direction in a circuit (Diode)
 - C. Stores energy and produces a mechanical force between the conductors (Capacitor)
 - D. Used for filtering and smoothing of signals and are the major components in transformers (Inductor)
47. What is the unit prefixes for Giga, Kilo, Mega respectively?
- A. 10^9 , 10^6 , 10^3
 - B. 10^9 , 10^3 , 10^6
 - C. 10^6 , 10^3 , 10^9
 - D. 10^{-9} , 10^3 , 10^6
48. What is the meter band for the frequency 21.000 – 21.450 MHz?
- A. 15 meters
 - B. 15 cm
 - C. 21 meters
 - D. 21 cm
49. A power amplifier has a gain of 3dB. If you input 44W, the output would be?
- A. 9.67 W
 - B. 88 W
 - C. 0.103 W
 - D. 58 W

50. The unit Watt (W) is a measure for:

- A. RF electric field strength
- B. RF energy
- C. RF power
- D. RF voltage

51. What is the function of an antenna tuner?

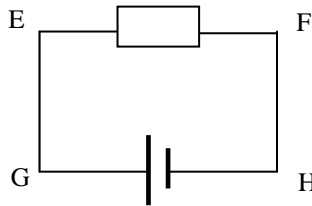
- A. To improve power efficiency between transceiver and antenna by matching the impedance
- B. To tune the frequency
- C. To maintain power transmission at a safe level
- D. To provide excellent grounding to the equipment during lightning

52. A three-element Yagi antenna of rods of unequal length, please arrange the elements in descending order

- A. Driven element, reflector, director
- B. Reflector, driven element, director
- C. Director, driven element, reflector
- D. Reflector director, driven element

53. Which direction is the electron flowing in the diagram below?

- A. From E to F
- B. From H to G
- C. From H -> F -> E -> G
- D. From G -> E -> F -> H



54. Define the function of Low-pass filter and High-pass filter respectively?

- A. Restrict low frequency and restrict high frequency
- B. Channeling high frequency and channeling low frequency
- C. None of the above
- D. Restrict high frequency and restrict low frequency

55. An increase in power from 13 Watts to 26 Watts is equal to a gain of:

- A. 3 dB
- B. -3 dB
- C. -13 dB
- D. 13 dB

56. What is the velocity of an electro-magnetic wave?

- A. 200×10^6 metres/sec
- B. 3×10^8 metres/sec
- C. 0.3×10^8 metres/sec
- D. 3×10^{-8} metres/sec





57. What is the advantage of a quarter-wave vertical ground-plane antenna for DX working on 21MHz?

- A. Small size
- B. All-round radiation
- C. Good matching to the feeder
- D. Low radiation angle

58. Current is define as

- A. a measure of electromotive (EMF) force between two points
- B. material property that opposes the flow of electrons
- C. a measure of the flow of electrons through a conductor
- D. the amount of energy per unit time expended by a system

59. What is the symbol for resistor?

- A. 
- B. 
- C. 
- D. 

60. What is used to convert sounds from our voice into radio signals?

- A. Receiver
- B. Transmitter
- C. Speaker
- D. Antenna