

सूचना तथा संचार मन्त्रालय
एमेच्योर रेडियो लाइसेन्स लिखित परिक्षाको पाठ्यक्रम

- 1. Introduction to Amateur Radio:** Purpose of amateur radio, Ministry of Information and Communication and its role on amateur radio licensing, Rules and Regulation governing amateur license. **(12-15%)**
- 2. Basic Electricity and Magnetism:** Elementary theory of Electricity and Magnetism, Current, Voltage, Conductors and Insulators, Resistance, Resistance in series and parallel, Power and Energy. **(12%-15%)**
- 3. Frequency and Radio Waves:** Batteries and Direct Current, Alternating Current, Frequency, Sound and Audio Frequency, Radio Frequency and Wavelength, Modulation of audio signal (AM, FM) and its importance. **(12%-15%)**
- 4. Basic Electronics:** Resistor and its types, Capacitor and its types, Inductor and its types, Semiconductors, PN junction(types-I characteristic, Junction breakdown, symbol), Zener diodes, Junction Transistor -PNP and NPN types. **(12%-15%)**
- 5. Basic Electric Circuits:** Short Circuit, Open Circuit, Closed circuit, Relationship between resistance, voltage and current (Ohms' law), Kirchoff's law and their applications. **(10%-15%)**
- 6. Amateur License:** Provisions for amateur Licenses, Amateur Call signs and Station Identification. **(10%-15%)**
- 7. Basic Antenna Design:** The value of a good antenna, characteristics of a good antenna, Relationship among Antenna size, Frequency, Wavelength. Types of resonant antennas, Multiband antennas, Loop antennas, Dipole Antennas, Quarter wave vertical antennas, Antennas for listening only. **(12%-15%)**
- 8. Q Signs QRZ, QRM, QRN, QST, QRL, QRS, QRP, QRO (10%-12%)**

Model Question

Multiple choice

1. Who enforces the rules and regulations of the amateur service in Nepal?
 - A. The Parliament
 - B. The Ministry of Information Communication (MoIC)
 - C. Nepal Telecommunication Authority
 - D. The Press Council
2. Which of the following will produce an alternating current (AC)?
 - A. A lead-acid automotive battery
 - B. A solar array
 - C. A fuel cell
 - D. A commercial generating station

3. Which instrument would you use to measure electric current?
 - A. An ohmmeter
 - B. A wavemeter
 - C. A voltmeter
 - D. An ammeter

4. What is the basic unit of capacitance?
 - A. The farad
 - B. The ohm
 - C. The volt
 - D. The henry

5. If a 100-ohm resistor is connected to 200 volts, what is the current through the resistor?
 - A. 1 ampere
 - B. 2 amperes
 - C. 300 amperes
 - D. 20,000 amperes

6. What is the definition of an amateur station?
 - A. A station in a public radio service used for radio communications
 - B. A station using radio communications for a commercial purpose
 - C. A station using equipment for training new radio communications operators
 - D. A station in the Amateur Radio service used for radio communications

7. What letters must be used for the first two letter in Nepali amateur call signs?
 - A. BV
 - B. 9N
 - C. 9G
 - D. 9M

8. How often must an amateur station be identified?
 - A. At the beginning of a contact and at least every ten minutes after that
 - B. At least once during each transmission
 - C. At least every ten minutes during and at the end of a contact
 - D. At the beginning and end of each transmission

Subjective

1. Define AM. How does it differ from FM?

2. Explain the VI characteristic of zener diode and its working as a voltage regulator.