

**लोक सेवा आयोग**  
नेपाल इञ्जिनियरिङ्ग सेवा, मेटेरियोलोजी समूह, राजपत्र अनंकित द्वितीय श्रेणी नायव मौसम  
विज्ञान सहायक पदको खुला प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

**परीक्षाको योजना (Examination Scheme)**

भाग	परीक्षा	समय	प्रश्न संख्या	पूर्णाङ्क	उत्तीर्णाङ्क	परीक्षा प्रणाली
१	लिखित	४५ मिनेट	५०	१००	४०	वस्तुगत बहुउत्तर
२.	अन्तर्वार्ता			२०		मौखिक

**द्रष्टव्य :-**

- (१) पाठ्यक्रममा भएका यथासम्भव सबै पाठयाँशहरूवाट प्रश्न सोधिनेछन् ।
- (२) गल्ती गरेको प्रश्नोत्तरका लागि २०% अंक कट्टा गरिनेछ ।
- (३) लिखित परीक्षावाट छनौट भएकाहरूलाई मात्र अन्तर्वार्तामा समावेश गराइनेछ ।
- (४) पाठ्यक्रम लागु हुने मिति २०६१।४।१५ गते

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समय :- ४५ मिनेट

प्रश्न संख्या :- ५०

पूर्णाङ्क :- १००

### 1. Basic Principles of Meteorology

- **Composition of the atmosphere:** Dry air; atmospheric ozone; water vapour;
- **Vertical division of the atmosphere:** Troposphere; stratosphere;
- **Heat exchange processes in the atmosphere:** Conduction; convection; advection and solar radiation;
- **Air Temperature:** Types of measurement; Celsius, Fahrenheit and Kelvin temperature scales;
- **Thermometers:** Types; measurement of air temperature; thermographs;
- **Atmospheric pressure:** Nature; Units; measurement; setting up and handling; correction for standard condition; the barograph; reduction of pressure to sea level;
- **Moist air and indicator:** The three states of water, solid, liquid and gaseous; density; water vapour pressure; evaporation; condensation; freezing; sublimation; relative humidity; dew point;
- Wet-bulb thermometer; psychrometer and hygrometer
- Cloud, fog and precipitation; visibility

### 2. Instrument and Method of Observation

#### Metallurgical Observation:

- Sunshine recorder; types of charts used; measurement of sunshine duration;
- **Measurement of the temperature of air:** Mercury thermometers; meteorological screens types and orientation; thermographs; calibrating corrections;
- Thermometers for measuring ground temperature at 10, 20 and 50 cm depths;
- **Mercury barometers:** Fortin and Kew; reading barometric height, correction and reduction of the reading to mean sea level; use of correction tables; barograph; calibration;
- **Evaporation:** Maintenance; reading; evaporation pan;
- **Surface wind measurement:** Wind speed; units; method of observing wind direction; method of obtaining wind speed; types of anemometer; anemograph;
- **Rain gauge and snow gauge:** Observation hours and procedures; coding rainfall measurements; recording rain gauge;
- **Visibility:** Horizontal visibility, measure by estimation; coding of observed visibility, oblique and vertical visibility;
- **Cloud:** Cloud classification (WMO); general; species and variety of cloud; cloud amount; height of cloud base;
- **Hydrometeors:** Rain; drizzle; snow grains; ice crystal; hail; fog; mist;
- **Lithometeors:** Haze; dust haze; smoke; dust storm; sand storm;
- **Precipitation and cloud associated with them:** Cloud system, present weather and past weather;

### 3. Concept of Climatology

- **General climatology**
- Definition of climates; climatic elements (temperature, precipitation, humidity, wind speed and wind direction, visibility, sky cover, sunshine, radiation etc.);
- **Statistical method**
- Computation of mean, median, mode and standard deviation; compiling data into tables;

### 4. Weather Reports:

- International meteorological codes; Surface synoptic reports from land stations; coding procedures for SYNOP code form; Coding procedure for upper air code form; Surface climatological reports; plotting surface and upper air data;

### 5. Aviation Meteorology

- METAR/SPECI reports

### 6. Meteorological Station

- Inspection of meteorological stations

## Model Question

**1. The highest percentage of gas by volume in the atmosphere is:**

- a) Nitrogen                      b) Oxygen
- c) Carbondioxide              d) Helium                      Ans:(a)

**2. Stratus cloud is classified**

- a) Low cloud                      b) Medium cloud
- c) High cloud                      d) None                      Ans :a)

**3. Instrument used to measure the duration of bright Sunshine**

- a) Anemometer                      b) Solarimeter
- c) Sunshine Recorder              d) Pyranometer              Ans: ( c )

**4. Surface wind is measured at a standard height at**

- a) The ground level
  - b) 4 meters above the ground
  - c) 8 meters above the general
  - d) 10 meters above the general
- Ans:(d)

**5. If the value of QNH is 995.6 hPa at a station then the QNH shall be reported in METAR report is:**

- a) Q 0995                      b) A0995
  - c) 9956                      d) B0995
- Ans: (a)