



SLR-ST – 139

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B.Sc. II (Semester – IV) (CBCS) (New) Examination, 2018
METEOROLOGY
Paper – IV : Meteorological Instruments

Day and Date : Friday, 18-5-2018
Time : 2.30 p.m. to 5.00 p.m.

Max. Marks : 70

- Instructions :** 1) **All questions are compulsory.**
2) **Figures to the right indicate full marks.**
3) **Draw neat diagrams wherever necessary.**
4) **Use of calculator and log tables is allowed.**

1. Select the correct alternative :

- i) Ordinary rain gauge (O. R. G) is _____
a) a non-recording rain gauge b) a recording rain gauge
c) used to measure sunshine d) a self recording rain gauge
- ii) The rainfall is measured in _____
a) mm or inches b) °C c) g/cc d) m/s
- iii) Which of the following instrument automatically records the quantity measured ?
a) Thermometer b) Barometer
c) Hygrometer d) The automatic siphon gauge
- iv) The correct expression to convert temperature in Fahrenheit into Celsius is _____
a) $C = \left(\frac{5}{9}\right)(F - 32)$ b) $C = \left(\frac{9}{5}\right)(F - 32)$
c) $C = \left(\frac{9}{5}\right)(F + 32)$ d) $C = \left(\frac{9}{5}\right)(F / 32)$
- v) A temperature of 100°C is equal to _____ °F.
a) 80 b) 212 c) 373 d) 672
- vi) The lines joining places of equal _____ are called isobars.
a) Temperature b) Pressure c) Humidity d) Wind speed

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- vii) C.G.S. unit of pressure is _____
a) N/m b) N/m^2 c) dynes / cm^2 d) dynes / cm
- viii) _____ is used for automatic recording of atmospheric pressure.
a) Thermograph b) Anemograph c) Hygrograph d) Barograph
- ix) Barometer is used to measure :
a) wind velocity b) atmospheric pressure
c) blood pressure d) body temperature
- x) The instrument used to detect direction of wind is known as _____
a) Wind vane b) Barometer c) Thermometer d) Hygrometer
- xi) The instrument used for the measurement of wind velocity is known as _____
a) Anemometer b) Barometer c) Thermometer d) Radiometer
- xii) Cup anemometer is used to measure _____
a) Wind velocity b) Temperature c) Pressure d) Rainfall
- xiii) Relative humidity reaches to 100 per cent when the difference between dry and wet bulb temperature is _____
a) Zero b) Fifty c) Eighty d) Hundred
- xiv) The arrangement of two dissimilar metals forming two junctions is known as _____
a) Thermocouple b) Thermopile
c) Thermograph d) Thermometer

2. Answer **any seven** of the following :

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- i) Describe different types of rain gauges.
- ii) Differentiate between ordinary rain gauge and self recording rain gauge.
- iii) Why mercury is used in thermometer ?
- iv) How atmospheric pressure is measured using Fortin's barometer ?
- v) What are advantages of aneroid barometer over Fortin's barometer ?
- vi) What is wind ?
- vii) State Seebeck effect.
- viii) Draw neat diagram of Ether thermoscope.

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3. A) Answer **any two** of the following : **10**
- i) With neat labelled diagram explain construction and working of ordinary rain gauge.
 - ii) With neat diagram explain construction and working of mercury thermometer.
 - iii) With neat diagram explain construction and working of mercury barometer.
- B) A doctor measures body temperature of his patient as 104°F. How much is patient's body temperature in degree Celsius ? **4**
4. Answer **any two** of the following : **14**
- i) With neat diagram explain construction and working of float gauge.
 - ii) Write short note on 'Thermograph'.
 - iii) Draw neat labeled diagram of Aneroid barometer. Describe its construction and working.
5. Answer **any one** of the following : **14**
- i) With neat diagram explain construction and working of Cup anemometer. How are its constants determined ?
 - ii) Draw neat labeled diagram of hair hygrometer. With neat diagram explain construction and working of Crooke's radiometer.
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