

**IV.B.TECH- I-SEM (R20)-II MID EXAMINATIONS-NOVEMBER-2023 Date: 10.11.2023.**

**Subject: Measuring Instruments Time:10:00 TO 11:30 A.M**

**Branch:**  **CSD-B, IT-B & CSM-A Marks: 25 M**

***Answer All Questions In Part-A& Part-B***

**PART-A 5\*2 = 10 M**

1. State the applications of gyroscopes. (CO1)
2. List out the characteristics of manometer fluids. (CO2)
3. Explain the merits and limitations of Pirani gauge. (CO3)
4. Define Absolute, Gauge and vacuum pressures. (CO1)
5. Write the advantages and disadvantages of electromagnetic flow meter. (CO3)

**PART-B 3\*5= 15M**

1. Explain the construction and working of Stroboscope and how it is used for measuring the speed of the rotating shaft. (CO3)

**OR**

1. Discuss the operation of the following accelerometers with neat sketches

(i) Piezo electric accelerometer.

(ii) Variable induction type accelerometer. (CO3)

1. Explain the working of Differential U – tube & Single column manometer with neat sketches (CO2)

**OR**

1. Explain the construction and working of McLeod gauge (Low press gauge) with neat sketches. (CO3)

10. Discuss in detail the construction and working of following flow meters

(i) orifice meter (ii) Rota meter. (CO3)

**OR**

11. Briefly explain the construction and working of Buoyancy Method for Density measurement. (CO3)

**SCHEME OF EVALUATION**

**Part –A**

| **SNO** | **THEORY** | **MARKS** | **TOTAL** |
| --- | --- | --- | --- |
| **1** | State the applications of gyroscopes. | **2** | **2** |
| **2** | List out the characteristics of manometer fluids. | **2** | **2** |
| **3** | Explain the merits and limitations of Pirani gauge. | **2** | **2** |
| **4** | Define Absolute, Gauge and vacuum pressures. | **2** | **2** |
| **5** | Write the advantages and disadvantages of electromagnetic flow meter. | **2** | **2** |

**Part –B**

| **SNO** | **THEORY** | **MARKS** | **TOTAL** |
| --- | --- | --- | --- |
| **6** | Explain the construction and working of Stroboscope and how it is used for measuring the speed of the rotating shaft.  **OR** | **5** | **5** |
| **7** | Discuss the operation of the following accelerometers with neat sketches  (i) Piezo electric accelerometer.  (ii) Variable induction type accelerometer. | **2.5**  **2.5** |  |
| **8** | Explain the working of Differential U – tube & Single column manometer with neat sketches  **OR** | **5** | **5** |
| **9** | Explain the construction and working of McLeod gauge (Low press gauge) with neat sketches. | **5** |  |
| **10** | Discuss in detail the construction and working of following flow meters  (i) orifice meter (ii) Rota meter  **OR** | **5** | **5** |
| **11** | Briefly explain the construction and working of Buoyancy Method for Density measurement | **5** |  |