

End Semester Examination (ESE), 2021Semester: **6th Semester**Subject: **Metrology**Subject Code: **Me - 604**

Total Marks: 56 Marks

Time: 2 Hours 30 minutes

All questions are compulsory

| PART A =10X1=10 Marks | | |
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| Q. No | Description | Mark |
| 1.a) | Fill in the blank with proper words. Controllable errors are also known as _____ errors. | 1 |
| 1.b) | Identify the statement whether it is true or false- Micrometers are designed on the principle of screw and nut. | 1 |
| 1.c) | Choose the correct answer - The sine bars should not be used for greater than angle i) 35° ii) 25° iii) 45° iv) 55° | 1 |
| 1.d) | Write the definition of one of the following terms. a) Screw thread b) Flatness | 1 |
| 1.e) | Write down two use of the following item- Spirit level | 1 |
| 1.f) | Mention two methods of measuring surface finish. | 1 |
| 1.g) | Why the beam comparators are used? | 1 |
| 1.h) | List two geometric checks generally made on machine tools. | 1 |
| 1.i) | Why a combination square is called as multipurpose instrument? | 1 |
| 1.j) | Name any two gauges and express their use. | 1 |
| PART B= 46 Marks | | |
| 2.a) | What does the abbreviation SWIPE stand for? Explain. | 3 |
| 2.b) | What are the different types of fit? Explain them with proper way. | 3 |
| 2.c) | State 'Taylor's Principle of Gauge design. | 3 |
| 2.d) | Explain the principle of sine bar. | 3 |
| 2.e) | Distinguish between Accuracy and Precision. | 3 |
| 3.i) | What are the various methods of measurements? | 4 |
| 3.ii) | Describe a gear tooth Vernier caliper and how it is used to check gear? | 4 |
| 3.iii) | How the straightness of bed can be carried out in a lathe? Explain. | 4 |
| 3.iv) | Describe the function of mechanical comparator with the help of a diagram | 4 |

Total pages=02

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| 4.a) | What are the sources of errors? Explain them briefly. | 5 |
| 4.b) | Explain the principle of a dial indicator with proper diagram. | 5 |
| 4.c) | Explain the working of Autocollimator with the help of diagram. | 5 |

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