

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2152906****Date:20/11/2018****Subject Name:Physical Testing-I****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

MARKS

- Q.1**
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|-----|---|-----------|
| (a) | Describe the squaring & cut squaring technique for fibre sampling. | 03 |
| (b) | Explain the airflow method for finding fibre fineness. | 04 |
| (c) | With the help of necessary sketches, explain the fibrograph for measuring fibre length. | 07 |
- Q.2**
- | | | |
|-----|---|-----------|
| (a) | Give the flowchart for grading system of Indian cotton. | 03 |
| (b) | Discuss, how the rapid ovens are used for measuring moisture in textiles. | 04 |
| (c) | With the help of neat diagram, explain the construction and working of Beesley balance. | 07 |
- OR**
- | | | |
|-----|---|-----------|
| (c) | With the help of neat diagram, describe the WIRA continuous twist tester. | 07 |
|-----|---|-----------|
- Q.3**
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|-----|---|-----------|
| (a) | What do you mean by effective length? How is it related to staple length. | 03 |
| (b) | Explain any one hygrometer. | 04 |
| (c) | With the help of neat sketch, explain the Shirley Trash Analyser. | 07 |
- OR**
- Q.3**
- | | | |
|-----|--|-----------|
| (a) | Describe the tongue sampling technique for wool. | 03 |
| (b) | Write a brief note on "Measurement of Maturity". | 04 |
| (c) | With the help of neat sketch, explain the lea strength tester. | 07 |
- Q.4**
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|-----|--|-----------|
| (a) | Explain the analysis of sorter diagram. | 03 |
| (b) | Describe high volume instrument testing of fibres. | 04 |
| (c) | Write a brief note on "Application of AFIS". | 07 |
- OR**
- Q.4**
- | | | |
|-----|--|-----------|
| (a) | List the methods in which the load can be applied wrt. Strength testing of textiles. | 03 |
| (b) | Explain the beam balance principle for tensile testing in detail. | 04 |
| (c) | With the help of neat sketch, explain the vibrascope. | 07 |
- Q.5**
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|-----|--|-----------|
| (a) | Give the conversion of English cotton count to Tex & Denier. | 03 |
| (b) | Enlist and describe about types of yarn irregularities. | 04 |
| (c) | With the help of neat diagram, explain the construction and working of Quadrant balance. | 07 |
- OR**
- Q.5**
- | | | |
|-----|---|-----------|
| (a) | Derive the formula to obtain Twist Factor. | 03 |
| (b) | Explain only the working principle involved with Uster evenness tester. | 04 |
| (c) | With the help of neat diagram, explain the construction and working of Shirley yarn hairiness tester. | 07 |
