

Code No: RT31354

R13**SET - 1**

III B. Tech I Semester Supplementary Examinations, October/November - 2018
ENGINEERING PROPERTIES OF BIOLOGICAL MATERIALS AND FOOD QUALITY
(Agricultural Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
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PART -A

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|---|---|------|
| 1 | a) Define porosity and surface area. | [3M] |
| | b) Explain coefficient of static friction and rolling resistance. | [4M] |
| | c) Explain drag coefficient and terminal velocity. | [4M] |
| | d) Explain sampling procedures for liquid materials. | [4M] |
| | e) Write the importance of total quality management? | [3M] |
| | f) What are the steps involved in implementing HACCP and give its applications? | [4M] |

PART -B

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|---|--|------|
| 2 | a) Write the importance of physical characteristics of food grains. | [4M] |
| | b) Explain visco-elastic behavior of materials with time effects. | [8M] |
| | c) What are the criteria for describing shape and size. | [4M] |
| 3 | a) Define creep and stress relaxation. | [3M] |
| | b) Derive Kelvin model and generalized Kelvin model with related equations. | [8M] |
| | c) Define friction. Explain effect of load sliding velocity. | [5M] |
| 4 | a) Explain electrical and Di-electrical properties of agricultural products. | [8M] |
| | b) What are the applications of engineering properties in handling and processing equipment? | [8M] |
| 5 | a) Define sampling. Explain sampling procedures for powdered and granular materials. | [8M] |
| | b) Explain the importance of food quality. | [8M] |
| 6 | a) Explain the principles involved in total quality control related to consumer preference and acceptance. | [8M] |
| | b) Define TQM. Write the importance of TQM? | [8M] |
| 7 | a) Enumerate applications of HACCP concept. | [8M] |
| | b) What is sanitation? Explain ISO 9000 series of standards | [8M] |
