

Guru Jambheshwar University Of Science & Technology, Hisar — 125001 Scheme of B. Tech. — Packaging Technology, w.e.f. Session 2018-19

# B. Tech. (Packaging Technology) III- Semester

| Sr. | Catagogra                      | Course Code   |               | Course Nomenclature                     | Hours per week |   |   | Course Credits |           |       |
|-----|--------------------------------|---------------|---------------|---|----------------|---|---|----------------|-----------|-------|
| No. | Category                       | Theory        | Practical     | Course Nomenciature                     | L              | Т | P | Theory         | Practical | Total |
| 1.  | Basic Science<br>Courses       | BSC-PKG201-T  |               | Applied Sciences for<br>Packaging       | 3              | 0 | 0 | 3.0            |           | 3.0   |
| 2.  | Engineering<br>Science Courses | ESC-PKG201-T  | 1             | Engineering Science for Printing        | 3              | 0 | 0 | 3.0            |           | 3.0   |
| 3.  | Professional<br>Core Courses   | PCC-PKG201-T  | PCC- PKG201-P | Elements of Packaging                   | 3              | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 4.  | Professional<br>Core Courses   | PCC- PKG203-T | PCC- PKG203-P | Package Printing Processes              | K13            | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 5.  | Professional<br>Core Courses   | PCC- PKG205-T | PCC- PKG205-P | Graphics Design Essentials in Packaging | 31             | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 6.  | Mandatory<br>Courses           | MC103-T       | JAN           | Indian Constitution                     | 3              | 0 | 0 | 0.0            |           | 0.0   |
|     | 18 0 9                         |               |               |   |                |   |   |                |           |       |
|     | Total Credits 19.5             |               |               |   |                |   |   |                | 19.5      |       |



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### Department Of Printing Technology

Guru Jambheshwar University Of Science & Technology, Hisar — 125001 Scheme of B. Tech. — Packaging Technology, w.e.f. Session 2018-19

### B. Tech. (Packaging Technology) IV- Semester

| Sr. | Category                     | Course Code   |               | Course Nomenclature                                      | Hours per week |   |   | Course Credits |           |       |
|-----|------------------------------|---------------|---------------|--|----------------|---|---|----------------|-----------|-------|
| No. | 8 ,                          | Theory        | Practical     |  | L              | Т | P | Theory         | Practical | Total |
| 1.  | Basic Science<br>Courses     | BSC-PKG202-T  |               | Applied Sciences for<br>Packaging Materials              | 3              | 0 | 0 | 3.0            |           | 3.0   |
| 2.  | Professional<br>Core Courses | PCC- PKG202-T | PCC- PKG202-P | Pre-Press Technology in<br>Packaging                     | 3              | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 3   | Professional<br>Core Courses | PCC- PKG204-T | PCC- PKG204-P | Computer Based Package<br>Design                         | 1C3            | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 4   | Professional<br>Core Courses | PCC- PKG206-T | PCC- PKG206-P | Paper Substrate in Packaging                             | 3              | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 5   | Professional<br>Core Courses | PCC- PKG208-T | AMB           | Polymers in Packaging                                    | 3HZ            | 0 | 0 | 3.0            |           | 3.0   |
| 6.  | Mandatory<br>Courses         | MC104-T       | 7 3           | Esse <mark>nce of</mark> Indian<br>Traditional Knowledge | 3              | 0 | 0 | 0.0            |           | 0.0   |
|     | 18 0 9                       |               |               |  |                |   |   |                |           |       |
|     | Total Credits                |               |               |  |                |   |   |                |           | 19.5  |

L-Lecture, T-Tutorial, P-Practical

Note: Each student will have to undergo 4 to 6 weeks duration Industrial/Research Laboratory Training (Summer Training-I) during summer vacations at the end of 4<sup>th</sup> Semester which will be evaluated in 5<sup>th</sup> Semester.



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### B. Tech. (Packaging Technology) V- Semester

| Sr.    | Category   | Course Code   |                | Course Nomenclature                          | Hours per week |   |   | Course Credits |           |       |
|--------|--|---------------|----------------|--|----------------|---|---|----------------|-----------|-------|
| No.    | 0,   | Theory        | Practical      |  | L              | T | P | Theory         | Practical | Total |
| 1.     | Open<br>Elective<br>Courses                                    | OEC-I         |                | Open Elective Course-I                       | 3              | 0 | 0 | 3.0            | -         | 3.0   |
| 2.     | Humanities,<br>Social<br>Sciences and<br>Management<br>Courses | HSMC302-T     | - JAR U        | Fundamental of Management<br>for Engineers   | 2              | 0 | 0 | 2.0            |           | 2.0   |
| 3.     | Professional<br>Core<br>Courses                                | PCC- PKG301-T | PCC- PKG301-P  | Colou <mark>r Management in Packaging</mark> | 3,00           | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 4.     | Professional<br>Core<br>Courses                                | PCC- PKG303-T | PCC- PKG303-P  | Rigid Packaging Machines                     | 36             | 0 | 3 | 3.0            | 1.5       | 4.5   |
| 5.     | Professional<br>Core<br>Courses                                | PCC- PKG305-T | At tu          | Pharmaceutical and<br>Cosmetics Packaging    | 3              | 0 | 0 | 3.0            |           | 3.0   |
| 6.     | Project Work   |               | PROJ- PKG301-P | Industrial Training Presentation-I           | 20             | 0 | 2 |                | 1.0       | 1.0   |
| 14 0 8 |  |               |                |  |                |   |   |                |           |       |
|        | Total Credits 18   |               |                |  |                |   |   |                |           | 18.0  |

Note: Assessment of Summer Training-I will be based on presentation/seminar, viva-voce, report and certificate for the practical training taken at the end of 4<sup>th</sup> semester.



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Scheme of B. Tech. - Packaging Technology, w.e.f. Session 2018-19

### B. Tech. (Packaging Technology) VI- Semester

| Sr.    | Catagoria   | Course        | e Code        | Course Nomenclature         | Hou | ırs per w | reek | Course Credits |           |       |
|--------|---|---------------|---------------|-----------------------------|-----|-----------|------|----------------|-----------|-------|
| No.    | Category  | Theory        | Practical     | Course Nomenciature         | L   | T         | P    | Theory         | Practical | Total |
| 1.     | Open Elective<br>Courses                                    | OEC-II        | 1             | Open Elective Course -II    | 3   | 0         | 0    | 3.0            |           | 3.0   |
| 2.     | Program<br>Elective<br>Courses                              | PEC-I         |               | Program Elective Course -I  | 3   | 0         | 0    | 3.0            |           | 3.0   |
| 3.     | Humanities,<br>Social Sciences<br>and Management<br>Courses | HSMC301-T     | - RUN         | Economics for Engineers     | 2   | 0         | 0    | 2.0            |           | 2.0   |
| 4.     | Professional<br>Core Courses                                | PCC- PKG302-T | PCC- PKG302-P | Print Finishing Techniques  | 3   | 0         | 3    | 3.0            | 1.5       | 4.5   |
| 5.     | Professional<br>Core Courses                                | PCC- PKG304-T | PCC- PKG304-P | Ink Technology in Packaging | 3   | 0         | 3    | 3.0            | 1.5       | 4.5   |
| 6.     | Professional<br>Core Courses                                | PCC- PKG306-T | ABA           | FMCG Packaging              | 3   | 0         | 0    | 3.0            |           | 3.0   |
| 17 0 6 |   |               |               |                             |     |           |      |                |           |       |
|        | Total Credits 2   |               |               |                             |     |           |      |                |           | 20.0  |

Note: Each student will have to undergo 6 to 8 weeks duration Industrial/Research Laboratory Training (Summer Training-II) during summer vacations at the end of 6<sup>th</sup> Semester which will be evaluated in 7<sup>th</sup> Semester.

| Program Elective Course-I (PE -1: Theory)          |                            |  |  |  |  |  |  |  |
|--|----------------------------|--|--|--|--|--|--|--|
| Course Code Course Name                            |                            |  |  |  |  |  |  |  |
| PEC-PKG151-T Digital Printing Process              |                            |  |  |  |  |  |  |  |
| PEC- PKG152-T                                      | Hybrid Printing Technology |  |  |  |  |  |  |  |
| PEC- PKG153-T                                      | Offset Technology          |  |  |  |  |  |  |  |
| Any one MOOC course not studied earlier ( or to be |                            |  |  |  |  |  |  |  |
| stu  | idied as per scheme)       |  |  |  |  |  |  |  |

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Scheme of B. Tech. - Packaging Technology, w.e.f. Session 2018-19

# B. Tech. (Packaging Technology) VII- Semester

| Sr. | Category                       | Course Code  |               | Course Nomenclature                 | Hou  | Hours per week |   |        | Course Credits |       |  |
|-----|--------------------------------|--------------|---------------|-------------------------------------|------|----------------|---|--------|----------------|-------|--|
| No. | Category                       | Theory       | Practical     | Course Nomenciature                 | L    | T              | P | Theory | Practical      | Total |  |
| 1.  | Open Elective<br>Courses       | OEC-III      | -             | Open Elective Course -III           | 3    | 0              | 0 | 3.0    |                | 3.0   |  |
| 2.  | Program<br>Elective<br>Courses | PEC-II       | PEC-II Lab    | Program Elective Course -II         | 3    | 0              | 2 | 3.0    | 1.0            | 4.0   |  |
| 3   | Program<br>Elective<br>Courses | PEC-III      | - ARU         | Program Elective Course -III        | 3    | 0              | 0 | 3.0    |                | 3.0   |  |
| 4.  | Professional<br>Core Courses   | PCC-PKG401-T | PCC-PKG401-P  | Packaging Converting Process        | 3    | 0              | 3 | 3.0    | 1.5            | 4.5   |  |
| 5.  | Professional<br>Core Courses   | PCC-PKG403-T | HES           | Print Cost Estimation               | 3    | 0              | 0 | 3.0    |                | 3.0   |  |
| 6.  | Project Work                   |              | PROJ-PKG401-P | M <mark>inor</mark> Project         | 0    | 0              | 6 |        | 3.0            | 3.0   |  |
| 7.  | Project Work                   |              | PROJ-PKG403-P | <u>Semi</u> nar                     | 0    | 0              | 2 |        | 1.0            | 1.0   |  |
| 8.  | Project Work                   |              | PROJ-PKG405-P | Industrial Training Presentation-II | 8    | 0              | 2 |        | 1.0            | 1.0   |  |
| 9.  | Mandatory<br>Courses           |              | MC-PKG401-P   | General Proficiency                 | 2° 0 | 0              | 2 |        | 0.0            | 0.0   |  |
|     | 15 0 17                        |              |               |                                     |      |                |   |        |                | _     |  |
|     | Total Credits 22.5             |              |               |                                     |      |                |   |        |                |       |  |

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Scheme of B. Tech. - Packaging Technology, w.e.f. Session 2018-19

| Program       | n Elective Course -                        | II (Theory + Practical)               | Program Elective Course - III (Theory) |  |  |  |
|---------------|--|---------------------------------------|--|--|--|--|
| Course Code   |  | Course Name                           | Course Code                            | Course Name  |  |  |
| PEC-PKG251-T  | PEC-PKG251-P Polymer Processing Technology |                                       | PEC-PKG351-T                           | Supply Chain Management                                      |  |  |
| PEC- PKG252-T | PEC- PKG252-P                              | Packaging Machinery Maintenance       | PEC- PKG352-T                          | Green Printing   |  |  |
| PEC- PKG253-T | PEC- PKG253-P                              | Dry Offset Printing Process           | PEC- PKG353-T                          | Industrial Packaging   |  |  |
| Any one MOOC  | course not studied earl                    | ier ( or to be studied as per scheme) | Any one MOOC                           | course not studied earlier ( or to be studied as per scheme) |  |  |

#### Note:

- 1. Students will be allowed to use non-programmable scientific calculator only, however sharing of calculator will not be permitted.
- 2. Project load will be treated as 2 hours for Project Coordinator and 1 hour for each participating teacher.
- 3. Assessment of Seminar will be based on presentation, viva-voce and report.
- 4. Assessment of Summer Training-II will be based on presentation/seminar delivered, viva-voce, report and certificate for the practical training taken at the end of 6<sup>th</sup> Semester.

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### Department Of Printing Technology

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Scheme of B. Tech. - Packaging Technology, w.e.f. Session 2018-19

# B. Tech. (Packaging Technology) VIII- Semester

| Sr. | Catagoria   | Cours        | e Code        | Course Nomenclature                   | Hou        | rs per w | eek | Course Credits |           |       |  |
|-----|---|--------------|---------------|---------------------------------------|------------|----------|-----|----------------|-----------|-------|--|
| No. | Category  | Theory       | Practical     | Course Nomenciature                   | L          | T        | P   | Theory         | Practical | Total |  |
| 1.  | Program Elective<br>Courses                               | PEC-IV       | PEC-IV Lab    | Program Elective Course -<br>IV       | 3          | 0        | 3   | 3.0            | 1.5       | 4.5   |  |
| 2.  | Program Elective<br>Courses                               | PEC-V        | PEC-V Lab     | Program Elective Course -<br>V        | 3          | 0        | 3   | 3.0            | 1.5       | 4.5   |  |
| 3.  | Professional<br>Core Courses                              | PCC-PKG402-T | PCC-PKG402-P  | Quality Control & Waste<br>Management | 3          | 0        | 3   | 3.0            | 1.5       | 4.5   |  |
| 4.  | Professional<br>Core Courses                              | PCC-PKG403-T | 7.            | Latest Trends in Packaging            | 3          | 0        | 0   | 3.0            |           | 3.0   |  |
| 5.  | Project Work,<br>Seminar and<br>Internship in<br>Industry |              | PROJ-PKG402-P | <mark>M</mark> ajor Project           | 100<br>CR0 | 0        | 8   |                | 4.0       | 4.0   |  |
| 6.  | Project Work,<br>Seminar and<br>Internship in<br>Industry |              | PROJ-PKG404-P | Seminar                               | 15CF       | 0        | 4   |                | 2.0       | 2.0   |  |
|     | 12 0 21   |              |               |                                       |            |          |     |                |           |       |  |
|     | Total Credits 22.5  |              |               |                                       |            |          |     |                |           |       |  |

| Program E                   | lective Course - IV      | (Theory + Practical)                | Program Elective Course - V (Theory+ Practical) |  |  |  |  |
|-----------------------------|--------------------------|-------------------------------------|---|--|--|--|--|
| Course                      | Code                     | Course Name                         |   | Course Code                            | Course Name                                    |  |  |
| PEC-PKG451-T                | PEC-PKG451-P             | Technology of Gravure               | PEC-PKG551-T                                    | PEC-PKG551-P                           | Rigid Packaging Machines                       |  |  |
| PEC- PKG452-T               | PEC- PKG452-P            | Label Printing                      | PEC- PKG552-T                                   | PEC- PKG552-P                          | Packaging of Industrial and<br>Hazardous Goods |  |  |
| PEC- PKG453-T PEC- PKG453-P |                          | Technology of Flexography           | PEC- PKG553-T                                   | PEC- PKG553-P                          | Flexible Packaging<br>Machines                 |  |  |
| Any one MOOC c              | ourse not studied earlie | er (or to be studied as per scheme) | AI - AI   | ny one MOOC course not studied earlier | (or to be studied as per scheme)               |  |  |

#### Note:

- 1. The project will be evaluated at the end of the 8th Semester on the basis of its implementation (software/hardware), presentation delivered, viva-voce and report.
- 2. A viva of the students will be taken by external examiner at the end of the semester.

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