

## 9<sup>th</sup> National Awards for Technology Innovation

### **PROPOSED CATEGORIES OF AWARDS**

(Individual, Team, Cottage/Micro/Small/Medium/Large Scale Industry, Academic, R&D Institutions etc.)

#### **1. *Innovation in Polymeric Materials:***

- ✓ New Polymers, Blends & Alloys, filled materials, fibers, Polymer, Composites and Nano composites, Smart Materials etc.
- ✓ New Additives, Compounds for newer & special applications in defence & space.

#### **2. *Innovation in Polymeric Products:***

- ✓ New / creative product design.
- ✓ Non conventional application / Replacement of conventional materials (eg. Metals, ceramics etc.).
- ✓ Modification of product design for performance improvements.
- ✓ Application in defence & space

#### **3. *Innovation of Polymer Processing Machinery & Equipments:***

- ✓ Development of new processing techniques.
- ✓ Modification of machinery for higher efficiency/productivity / Automation.
- ✓ Energy conservation, product quality improvement.
- ✓ Improvement & design of moulds, dies and auxiliary equipments.

#### **4. *Innovation in Polymer Waste Management:***

- ✓ Newer technology in plastic waste utilization into products/energy recovery.
- ✓ Recycling Technology.
- ✓ Plastic waste collection, segregation techniques.
- ✓ Product design for improved recyclability.

#### **5. *Innovation in Green Polymeric Materials & Products:***

- ✓ Biopolymers.
- ✓ Biodegradable / compostable Polymers.
- ✓ Time controlled degradation.
- ✓ Green material filled polymers.
- ✓ Biodegradability evaluation techniques.

#### **6. *Innovation in Packaging Techniques including creative Design:***

- ✓ Emerging Packing Technologies
- ✓ Smart Packaging
- ✓ New compound for replacement of multi-layered packages.
- ✓ Packaging for defence

**7. *Polymers in Agriculture and Water Conservation:***

- ✓ Water transportation, mulching, canal lining, Drip irrigation, Sprinkler system Low Tunnels, Poly house etc.
- ✓ Controlled release system for fertilizer, pesticides, micro nutrients, etc.
- ✓ Innovative packaging for agriculture, floriculture and horticultural produce.
- ✓ Controlled permeability films & packaging for improved shelf life
- ✓ Novel Usage of plastics for food security.

**8. *Polymers in Public Health care:***

- ✓ Affordable / cost effective implants, implements and devices.
- ✓ New innovative products for medical application.
- ✓ Polymer based new drugs delivery system.
- ✓ Polymer body implants.
- ✓ Drinking water storage & transportation.
- ✓ Polymer membrane for water purification /Desalination.
- ✓ Devices for waste water, drainage, sewage treatment system.

**9. *Innovation in Automotive & Transportation System:***

- ✓ Use of Polymers for Indigenization of products, creative product design, replacement of conventional material, performance optimization of products for automotive & transportation system.
- ✓ Developments in Logistics

**10. *Innovation in Robotics & Automation in Polymer Processing:***

- ✓ Developments and Applications in Robotics & Automation in different polymer processing techniques.
- ✓ Development in material movement system.
- ✓ Improvements in moulding & post-moulding operations.

**11. *Research in the field of Polymer Science & Technology  
(for Research Students of Academic Institute / Research lab.)***

- ✓ Individual / Team of researchers in R & D Institutions & laboratories
  - ✓ Original research work in polymeric materials processing etc. leading to proto type development & future industrial applications.
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