

LIST OF TABLES

| SR. NO. | TABLE NO. | TABLE DESCRIPTION | PAGE NO. |
|--|--------------|--|-------------|
| CHAPTER 2: LITERATURE REVIEW | | | |
| 1. | Table 2.1: | Base Textile material used in marketed application area | 13 |
| 2. | Table 2.2: | Green synthesis of nanoparticles from various plant extract/components | 45 |
| 3. | Table 2.3: | Advantage of green synthesis of NPs from plant parts | 46 |
| 4. | Table 2.4: | Various medicinal plant used for nanoparticles formation with their therapeutic uses | 55 |
| 5. | Table 2.5: | Green synthesis of AgNPs from various plant extract/components | 57 |
| 6. | Table 2.6: | Different types of fabric and their Properties | 93 |
| 7. | Table 2.7: | UPF ratings | 97 |
| CHAPTER 3: MATERIALS AND EXPERIMENTAL METHODS | | | |
| 8. | Table 3.1: | Constituents' add-on levels during AgNPs synthesis | 111 |
| 9. | Table 3.2: | Antibacterial test samples details | 126 |
| 10. | Table 3.3: | Grading specification of MMT test as per AATCC 195 | 139 |
| 11. | Table 3.4: | Indices of MMT | 140 |
| 12. | Table 3.5: | Composition details for CP leave extracts | 143 |
| 13. | Table 3.6: | Composition details for AgNO ₃ salt solutions | 144 |
| 14. | Table 3.7: | Composition used for AgNPs/CP colloidal solutions (Major scale) | 144 |
| 15. | Table 3.8: | Composition used for AgNPs/CP colloidal solutions (Minor scale) | 146 |
| 16. | Table 3.9: | Antibacterial test samples details | 150 |
| 17. | Table 3.10: | Details of the developed nano-composites | 162 |

CHAPTER 4: RESULTS AND DISCUSSIONS

| | | |
|-----|--|-----|
| 18. | Table 4.1: Average zone of inhibition (mm) | 174 |
| 19. | Table 4.2: Composition of the Elements | 179 |
| 20. | Table 4.3: FTIR characterization peaks of Sample 00 and Sample 01 | 186 |
| 21. | Table 4.4: Physical characteristics | 187 |
| 22. | Table 4.5: Low-stress characteristics | 188 |
| 23. | Table 4.6: Air permeability ($\text{m}^3/\text{m}^2/\text{h}$) | 189 |
| 24. | Table 4.7: Moisture management test results | 191 |
| 25. | Table 4.8: UV transmittance profile of the samples | 196 |
| 26. | Table 4.9: ZOI (in mm) of various samples against SA and EC bacterial cultures | 205 |
| 27. | Table 4.10: Particle size distribution of the AgNPs colloidal solutions (Set-I) | 223 |
| 28. | Table 4.11: Zone of Inhibition (ZOI) in (mm) of various samples (Set-I) | 226 |
| 29. | Table 4.12: Particle size distribution of the AgNPs colloidal solutions (Minor Set-II) | 233 |
| 30. | Table 4.13: Zone of Inhibition (ZOI) in (mm) of various samples (Set-II) | 236 |
| 31. | Table 4.14: GC-MS retention time (RT) and % area of the phytoconstituents major peaks | 242 |
| 32. | Table 4.15: Phytochemical constituents present at 9.4 RT | 245 |
| 33. | Table 4.16: Phytochemical constituents present at 18.71 RT | 246 |
| 34. | Table 4.17: Phytochemical constituents present at 19.78 RT | 247 |
| 35. | Table 4.18: Phytochemical constituents present at 20.33 RT | 248 |
| 36. | Table 4.19: Phytochemical constituents present at 25.81 RT | 249 |
| 37. | Table 4.20: Phytochemical constituents present at 39.29 RT | 250 |
| 38. | Table 4.21: Zone of Inhibition (ZOI) in (mm) | 255 |
| 39. | Table 4.22: 't'-Test (Zone of Inhibition) | 256 |
| 40. | Table 4.23: FTIR characterization peaks of PP30 (SMS) | 267 |

| | | |
|-----|---|-----|
| 41. | Table 4.24: FTIR characterization peaks of PV40 (SMS) | 268 |
| 42. | Table 4.25: FTIR characterization peaks of PP50 (SMS) | 269 |
| 43. | Table 4.26: FTIR characterization peaks of PP45 (SMMMS) | 270 |
| 44. | Table 4.27: Physical characteristics of Nano-composites | 272 |
| 45. | Table 4.28: 't'-Test (GSM and Thickness) | 275 |
| 46. | Table 4.29: Low-stress characteristics of Nano-composites | 277 |
| 47. | Table 4.30 : 't'-Test (Bending modulus and Crease recovery) | 278 |
| 48. | Table 4.31: Air permeability (NI/m ² /h or m ³ /m ² /h) of Nano-composites | 281 |
| 49. | Table 4.32: 't'-Test (Air permeability) | 283 |
| 50. | Table 4.33: Moisture management properties of Nano-composites | 285 |
| 51. | Table 4.34: UV transmittance profile of Nano-composites | 302 |
| 52. | Table 4.35: 't'-Test (UV transmittance profile) | 304 |