

**DEPARTMENT OF APPLIED SCIENCE AND GENERAL ENGINEERING**

**2018-19 SEM I**

**PROJECTS IN MATHEMATICS**

1. Graph theory in Physics
2. Graph theory in Chemistry
3. Graph theory in Signal Processing
4. Field theory and Cryptography
5. Graphs in Networking
6. Konigsberg problems
7. Evolution of graph theory
8. Importance of Navier Stokes Equation in Engineering
9. Maxwell's equation and Electromagnetism
10. Number theory in Engineering Applications
11. Role of Mathematics in Engineering
12. Applications of Matrices in Engineering
13. Conical form of Matrices
14. Matrices in Signal Processing
15. Role of Laplace Transformers in Engineering
16. Role of Fourier Transformers in Engineering
17. Role of Random Transformer in Engineering
18. Role of Wavelet Transformer in Engineering
19. Various Integral transformer in Engineering
20. Mathematics in the study of Crystal Symmetries
21. Mathematics in the study of Molecule Structure
22. Mathematics in Telecom
23. Mathematics in Bio Technology
24. Mathematics in Bio Medicine
25. Mathematics in Bio Mechanics
26. Matroid theory and linear codes
27. Matroid of matrix
28. Matroid of graphs
29. Non planar graphs
30. Dual of graphs
31. Group theory in Engineering
32. Application of Eigen vectors
33. Rank of matrix and applications

**Projects in Civil Engineering**

1. The role of Informal Builders in the Development of Construction Industry.
2. A Review of Cost Control Techniques for Building Projects in India.
3. The Nature and Management of Risk in India's Construction Industry.
4. The Prospect of Human Resource Management in Enhancing Higher Productivity in a Construction Company.
5. The Impact of Effective Contract Planning on Contractors Profit.
6. Application of construction safety & risk management system.
7. Application of Managing for the sustained success of an organization (a quality management approach)
8. Urban Disaster Prevention and Protection Project/Information Systems and Technology
9. Disputes Settlement in Construction.
10. A study of small strain behavior of soil.
11. Engineering Behavior of Unsaturated Soils
12. Reliability of Structures Under Winds or Earthquakes
13. The Development of Low Energy Green Building Material
14. The Study on Cold-Bonding Light Weight Aggregate
15. The Study on the Development of High-Performance Green Concrete
16. Study on Member Behavior of Geopolymer
17. Corrosion of Steel Reinforcements
18. Production of Energy-Saving Cements
19. Decision Model for Real Estate Development
20. Evaluation System for Real Estate Investment
21. Application of waste rubber in construction industry
22. Use of nano particles in Bridges
23. Application of fly ash for concrete
24. Use of GIS in surveying
25. Review of environmental impact assessment methods
26. Study of waste water treatment plant
27. Study of water treatment plant
28. Application base isolation technique for bridges
29. Review of solid waste collection methods
30. Review of hydro electricity projects in Maharashtra
31. Recent developments in wind energy
32. A case study of a green building
33. Review of irrigation methods in India
34. Review of thermal projects in India
35. 4D construction management technology
36. Cost saving due to Solar roof top project .
37. Cost saving due to Environment friendly STP
38. New technology in Solar power plants.
39. New technology in environmentally friendly STP

## **PROJECTS IN PHYSICS**

1. Applications of Ultrasonic in Industry
2. Applications of Ultrasonic in Medicine
3. Applications of Polarization in Industry
4. Applications of Ultrasonic for Characterization
5. Polarization for Comfort
6. Nanotechnology in Industry
7. Nanotechnology in Medicine
8. Futuristic Applications of Nanotechnology
9. Nanotechnology for Comfort
10. Nanotechnology for Efficiency
11. Superconductivity in Industry and Research
12. Nanotechnology in Power Generation
13. Ultrasonics in Power Generation
14. Electron Microscope in Industry
15. Superconductivity in Quantum Computing
16. Interference and Diffraction- Roll in industry
17. Lasers in Power Generation
18. Sensors based on Photovoltaic Effect
19. Solar Energy for Power Generation
20. Lasers in Industry
21. Lasers in Medicine
22. Lasers for Characterization
23. Laser based Sensors
24. Ultrasonic based Sensors

## **PROJECTS IN CHEMISTRY**

1. Water Purification by reverse osmosis – new design of purifier.
2. Water Purification by electrodialysis – new design of apparatus
3. A portable device for Detection of hardness in water.
4. A portable device for detection of heavy metal ions in water
5. A portable device for detection of pathogens in water
6. A simple test for detecting pathogens in water
7. Applications of Green chemistry in industry
8. Design of novel sensor for detection of chemicals like - explosives(RDX,)/ drugs, alcohol vapour, gases etc.)
9. Design of an economical uv-visible spectrometer
10. Polymer composites from natural fibres
11. Polymer composites from natural resins
12. Recycling of plastics- new products/new methods
13. Design of economical fuel cell
14. Novel method for Bio fuel production
15. Safe method for Hydrogen storage
16. Economical methods for Hydrogen production
17. Applications of Carbon nanotubes
18. Applications of Fullerenes
19. Device for Corrosion detection
20. Novel method for Corrosion control
21. Applications of Graphene
22. Polymers in Wearable devices

## **PROJECTS IN ELECTRICAL**

- 1) Supercapacitor
- 2) Hybrid capacitor
- 3) Pseudocapacitors
- 4) Comparison of supercapacitor and capacitor
- 5) Comparison of supercapacitor and battery
- 6) Comparison between supercapacitor and hybrid capacitor
- 7) Comparison of DC motor and AC motor
- 8) Protective system in power system
- 9) Wireless energy transfer
- 10) Grid connected solar power generation
- 11) Stepper motor
- 12) Servo motor
- 13) Compressed Air energy storage system
- 14) Fuel cell
- 15) Energy saving equipments
- 16) Applications of Induction motor
- 17) Earthing
- 18) Geothermal energy generation system
- 19) Tidal energy generation system
- 20) Wind power generation system
- 21) SCADA
- 22) UPS
- 23) Circuit breaker
- 24) Nuclear battery