

AROGYA MANTHAN 2K26

Problem Statements (PS)

Malnad College of Engineering, Hassan | July 27–28, 2026

PS-01 Software Innovation for Smart Healthcare

Broad Theme: Develop innovative software solutions that improve healthcare delivery, accessibility, diagnosis, patient engagement, or health system efficiency using emerging digital technologies.

Sample Problem Statements:

- 1 AI-powered early disease detection and clinical decision support.
- 2 Digital platforms for rural healthcare access and telemedicine.
- 3 Smart Electronic Health Records (EHR) with interoperability and secure data sharing.
- 4 Personalized healthcare using predictive analytics and wearable health data.
- 5 Mental health, rehabilitation, and wellness applications using AI, AR/VR, or gamification.

Suggested Technologies: AI, Machine Learning, Data Analytics, Cloud Computing, Mobile Apps, Blockchain, Cybersecurity, AR/VR, NLP.

PS-02 Hardware Innovation for Healthcare

Broad Theme: Design and develop innovative medical devices, assistive technologies, diagnostic systems, wearable devices, robotic systems, or IoT-enabled healthcare solutions that address real-world healthcare challenges.

Sample Problem Statements:

- 1 Low-cost portable diagnostic devices for rural healthcare.
- 2 Smart wearable devices for continuous health monitoring.
- 3 IoT-enabled patient monitoring and emergency alert systems.
- 4 Rehabilitation and assistive devices for elderly and differently-abled individuals.
- 5 Healthcare robotics for surgery assistance, hospital automation, or patient care.

Suggested Technologies: IoT, Embedded Systems, Sensors, Robotics, Biomedical Instrumentation, Wearables, Electronics, 3D Printing.

PS-03 Student Innovation Challenge (Open Track)

Identify any unmet challenge in healthcare and develop an innovative, feasible, and scalable solution that creates measurable social, economic, or clinical impact.

Illustrative domains (not limited to):

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|---------------------------------|----------------------------|---|
| ● Maternal and child healthcare | ● Preventive healthcare | ● Public health |
| ● Emergency response | ● Medical waste management | ● Nutrition |
| ● Elderly care | ● Disability inclusion | ● Hospital management |
| ● Medical education | ● Digital therapeutics | ● Health awareness |
| ● Healthcare financing | ● Rural healthcare | ● Any other healthcare challenge identified by the team |

Note

- Teams are encouraged to identify their own real-world healthcare problem. The above list is indicative and not exhaustive.
- Healthcare solutions are not limited to human beings; challenges pertaining to animal husbandry can also be identified.