



International Institute of Health Management Research (IIHMR), New Delhi

PGDM (HOSPITAL AND HEALTH MANAGEMENT)

(2024-2026 PGDM Batch)

SUPPLEMENTARY EXAM (1st & 2nd Semester)

CC 618-Introduction to Digital Health-II (DH-II)

Date: August 29, 2025

Timing & Duration: 02:30 – 05:30 p.m. (3 Hrs.)

Max. Marks: 100

Instructions:

- Budget your time as per the marks given for each question and write your answer accordingly.
 - Don't write anything on the Question Paper except writing your Registration No.
 - Mobile Phones are not allowed even for computations.
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Part-A: Multiple Choice Questions (all are compulsory)

(Total – 20 marks/ 2 marks each)

1. Which of the following is NOT a primary benefit of telemedicine in rural healthcare?
 - a) Increased access to specialists
 - b) Reduced travel costs
 - c) Guaranteed cure of all chronic diseases
 - d) Timely medical advice
2. In synchronous telemedicine, consultation is:
 - a) Real-time interactions between patient and provider
 - b) Pre-recorded messages sent to patients
 - c) Stored data reviewed later by the provider
 - d) Conducted via automated chatbots only
3. Which WHO Digital Health Intervention category does telemedicine primarily fall under?
 - a) Client interventions
 - b) Healthcare provider interventions
 - c) Health system manager interventions
 - d) Data services
4. Which of the following is an example of AI use in diagnostics?
 - a) Wearable step counter
 - b) Chatbot symptom checker
 - c) 3D printed prosthetic
 - d) Blockchain patient record

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5. Which is a key challenge in implementing AI in healthcare?
- a) High-speed internet
 - b) Data privacy and bias
 - c) Vitamin deficiencies
 - d) Manual record keeping
6. Digital therapeutics are best described as:
- a) Online health blogs for patients
 - b) Evidence-based software interventions for disease prevention or treatment
 - c) Any mobile health app
 - d) Telemedicine platforms for emergencies
7. Which company offers an artificial intelligence-powered personalized dosing platform to manage chronic drug regimens?
- a) Roche
 - b) Pfizer
 - c) Dosis
 - d) Merck
8. Which condition is MOST likely to be managed by digital therapeutics?
- a) Appendicitis
 - b) Type 2 diabetes
 - c) Broken bone
 - d) Acute heart attack
9. A digital twin in healthcare refers to:
- a) A backup copy of hospital records
 - b) A virtual replica of a patient's body or organ for simulation and analysis
 - c) A second doctor for each patient
 - d) A hologram used in medical conferences
10. A key benefit of remote patient monitoring for heart failure patients is:
- a) Reducing the need for follow-up appointments entirely
 - b) Detecting early signs of deterioration to prevent hospital readmission
 - c) Replacing cardiologists with AI
 - d) Guaranteeing no further heart problem

Part-B: Write Short notes (any four)

(Total – 20 marks/ 5 marks each)

11. A rural clinic uses a telemedicine platform to connect patients with urban specialists. After six months, data shows a 40% increase in specialist consultations, but some patients complain about poor audio and video quality. How can telemedicine consultations be improved?
12. A hospital introduces an AI tool to help detect lung cancer in chest CT scans. Some clinicians worry about false positives leading to unnecessary follow-ups. How can clinician trust be improved?

13. A cardiac care center deploys remote monitoring devices for heart failure patients. Alerts often flag minor, non-urgent changes in heart rate, overwhelming staff. What can be done to catch high alerts in the system.
14. How can digital therapeutics help in type 2 diabetes management?
15. How can digital twin help in performing knee surgeries?

Part-C: Long Questions (any four)

(Total – 60 marks/ 15 marks each)

16. A primary health center is launching a telemedicine service to connect rural patients with city-based specialists. Initial uptake is low despite free access. You are given the responsibility for its implementation.
 - a. *How would you work with community health workers to address cultural resistance to virtual consultations?*
 - b. *If local doctors feel bypassed by telemedicine, what engagement strategies would you use to align them as partners rather than competitors?*
 - c. *What quick wins could you implement in the first month to demonstrate the value of the service to both patients and providers?*
17. A tertiary care hospital integrates AI software to assist radiologists in detecting lung nodules on chest CT scans. Some radiologists worry about job displacement.
 - a. *How would you address fears of redundancy while positioning the AI tool as an enhancement to expertise?*
 - b. *How would you design a feedback loop so radiologists can report false positives or negatives to improve AI accuracy?*
 - c. *Which change-management step would focus on integrating AI into daily routines so it becomes standard practice?*
18. A regional hospital launches a telemedicine program for patients aged 65 and above to provide follow-up consultations for chronic conditions such as diabetes, hypertension, and arthritis. Key features include the following:
 - Video consultations via a smartphone app.
 - Prescription renewal through the same platform.
 - SMS reminders for upcoming appointments.

What are 5 barriers and challenges you envisage. Provide strategies to address each of these barriers.
19. A tertiary care hospital launched a P4 medicine initiative for patients at high risk of cardiovascular disease (CVD). The following digital tools were used for each of the dimensions.
 - For Predictive: AI-based risk scoring from EHR data, genetic screening, and wearable device data (heart rate, activity).
 - For Preventive: Mobile app sending lifestyle coaching messages, personalized diet plans, and medication reminders.

- For Personalized: Treatment plans adjusted based on patient genetic profile, comorbidities, and real-time health data.
- For Participatory: Patient portal allowing patients to view their health metrics, set wellness goals, and join peer-support groups.

After 6 months the following are the observations made by the management.

- 75% of enrolled patients show improved adherence to medication and physical activity goals.
- Engagement is higher among tech-savvy patients, but low among those unfamiliar with smartphones.
- Some clinicians feel the genetic data is underutilized in treatment decisions.

After reading the above scenario answer the following questions briefly.

- Identify and explain how each element of the P4 strategy is applied in this program.*
- Suggest two ways to improve patient participation, especially among low-tech users.*
- Recommend two strategies to better integrate genetic data into clinical decision-making.*
- Propose two indicators to measure the program's long-term success.*

20. A 300-bed district hospital begins its ABDM implementation journey. Around 60% of its OPD patients already have ABHA IDs. Many patients do not understand the consent process. The hospital must register in the Health Facility Registry, create ABHA IDs for patients, integrate its HIS with ABDM APIs, and train staff to use the Health Information Exchange & Consent Manager. The current HIS integration is partial, with lab reports not yet linked. Moving towards ABDM will mean increased workload during the transition phase.

After reviewing the situation, list three main challenges faced in this scenario and their impact on service delivery. Suggest strategies to overcome the challenges.