

Post Graduate Diploma in Management (Hospital & Health Management)

PGDM – 2024-2026 Batch

2nd Year – 4th Semester End Examination

Subject & Code	: Design Thinking and Implementation of Digital Interventions (DTIDI)-HIT 716	Reg. No.:
Semester & Batch	: IV, 2024-2026	Date : 10-03-2026
Time & Duration	: 10:30 A.M.-01:30 P.M. (3 Hrs.)	Max. Marks : 70

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: Q.1 to Q.10 all questions are compulsory (10 X 2 Marks = 20 Marks)
One liner, MCQs, True/False

1. What is the primary purpose of the "Empathize" stage in Design Thinking?
A) To brainstorm potential solutions
B) To understand the needs, emotions, and experiences of stakeholders
C) To prototype the final digital health product
D) To analyze the financial viability of a project
2. Why is "divergent thinking" crucial during the Ideate stage?
A) It narrows down choices to the most affordable option
B) It focuses on validating a single prototype
C) It encourages generating a wide volume of diverse, creative ideas
D) It relies solely on existing clinical data
3. Which tool is most effective for visualizing the relationships and influences between patients, clinicians, and administrators?
A) SCAMPER
B) Stakeholder Map
C) Wireframe
D) SWOT Analysis
4. Understand) In the "Define" stage, what is the primary function of a "How Might We" (HMW) question?
A) To critique existing healthcare policies
B) To transform insights into actionable opportunities for design
C) To mandate a specific technological solution
D) To eliminate the need for further research

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5. A team is using SCAMPER to improve a teleconsultation app. If they ask, "What if we remove the video component to save bandwidth?" they are applying which part of the acronym?
- A) Substitute
 - B) Combine
 - C) Adapt
 - D) Eliminate
6. When creating a service blueprint for a hospital patient journey, which element is most critical to include?
- A) Only the software code
 - B) The line of visibility between user actions and backstage processes
 - C) The marketing budget for the year
 - D) The final profit margin projections
7. Which strategy best ensures that a digital health prototype remains "patient-centered" during the iterative testing phase?
- A) Limiting testing to hospital administrators only
 - B) Using feedback loops to refine the design based on real patient interactions
 - C) Focusing only on the technical feasibility of the dashboard
 - D) Implementing features based on competitor trends rather than user needs
8. During user testing, a patient struggles to navigate a mental health chatbot. Which tool should the design team use to categorize the positive feedback, criticisms, and new ideas received?
- A) Empathy Map
 - B) Feedback Grid
 - C) SWOT Analysis
 - D) Mind Mapping
9. Why is the "Ethical Design Checklist" critical when integrating AI into mental health platforms?
- A) It guarantees the app will be profitable
 - B) It ensures compliance with privacy, inclusion, and safety standards
 - C) It replaces the need for clinical trials
 - D) It removes the need for user testing
10. How does the Aravind Eye Care model exemplify the successful application of Design Thinking?
- A) By prioritizing expensive technology over patient access
 - B) By using patient-centered design to provide high-quality care to low-income populations
 - C) By ignoring stakeholder feedback to speed up development
 - D) By focusing exclusively on regulatory standards rather than patient experience

Part B: Q.11 to Q.15 attempt any four questions (4 X 5 Marks = 20 Marks) - Short Notes

11. A district hospital in Haryana plans to launch a teleconsultation service for elderly patients with diabetes. After conducting interviews, the team realizes that many patients struggle with smartphone navigation and fear data misuse. However, administrators are focused mainly on reducing outpatient crowding. Evaluate how the design team should reconcile patient concerns and administrative priorities using empathy tools and problem-framing techniques. would be most appropriate and why.

12. A startup aims to design an AI-based mental health chatbot for college students experiencing stress and anxiety. Early research reveals stigma around seeking therapy and concerns about confidentiality. Using principles of divergent and convergent thinking, design an ideation plan to generate and shortlist innovative, ethical chatbot features. Incorporate how two ideation tools (e.g., can be used in your proposed process
13. A primary health center prototypes a wearable device interface for monitoring high-risk pregnancies. During testing, nurses report usability challenges, while pregnant women express confusion about interpreting alerts. Critically evaluate the prototype using usability, desirability, and feasibility criteria. Recommend modifications and describe how feedback loops should be incorporated before final deployment.
14. The government plans to expand the eSanjeevani telehealth platform to include AI-driven triage and multilingual chatbot services in tribal regions. Analyze the technological, cultural, ethical, and regulatory barriers that may affect the implementation of AI-driven triage and multilingual chatbot services in tribal communities. Further, analyze how each stage of the Design Thinking process (Empathize, Define, Ideate, Prototype, Test) can address these barriers systematically.
15. A design team is developing a mobile-based maternal health monitoring application for women in rural areas with limited digital literacy and intermittent internet connectivity. Apply the concept of a user persona to develop a detailed persona for a primary end-user of this application. Include demographic details, goals, challenges, digital behavior, healthcare needs, and technology access. Explain how this persona would guide design decisions for the application.

Part C: Q.16 to Q.19 attempt any three questions (3 X 10 Marks = 30 Marks) - Long Notes

16. A public hospital has introduced a digital appointment and teleconsultation system to reduce outpatient waiting time. However, patient complaints indicate confusion during registration, long virtual waiting periods, and lack of follow-up communication after consultation. Evaluate the effectiveness of the current patient journey by critically examining each stage (awareness, registration, consultation, follow-up). Using the concept of a Patient Journey Map, identify gaps, pain points, and breakdowns in experience. Recommend prioritized improvements based on patient-centered design principles and justify your recommendations.
17. A government hospital is launching a multilingual AI-powered chatbot integrated with its telehealth services to support migrant workers who face language barriers, irregular work hours, and limited trust in public healthcare systems. Construct a detailed Empathy Map (Says, Thinks, Does, Feels, Pains, Gains) for a migrant worker using this chatbot service. Based on the insights generated:
 - a. Design three patient-centered service features.
 - b. Propose two strategies to build trust and improve engagement.
 - c. Justify how your design decisions align with inclusive and ethical design principles.
18. A tertiary care hospital has implemented a traditional outpatient appointment booking system through a mobile app. Despite its availability, patients continue to prefer walk-in visits due to long digital waiting times, poor navigation, and lack of follow-up reminders. Analyze the existing appointment booking system using the SCAMPER framework (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse). Break down the current system's limitations under each relevant SCAMPER element and how specific SCAMPER components could address identified inefficiencies.

19. A district hospital plans to launch a mobile-based teleconsultation application to improve access for rural patients with low digital literacy and limited internet connectivity. The app must support appointment booking, video consultation, prescription access, and emergency assistance. Design a low-fidelity wireframe for the patient-side mobile application. In your response develop wireframes for at least three key screens (e.g., Home Screen, Appointment Booking, Consultation Interface). Clearly label navigation elements, buttons, content sections, and user interaction points. Justify your layout decisions based on usability, accessibility, and patient-centered design principles. Explain how your wireframe minimizes cognitive load and supports users with low digital literacy.