

PG Degree Regular/Supplementary Examinations in Paediatrics (M.D)**PAPER IV – Recent Advances****Time : Three Hours****Maximum : 100 Marks****Essay:****(20)**

1. A 4-year-old male child brought to the pediatric emergency department with a 2-day history of high-grade fever, cough, extreme lethargy and poor oral intake. On examination, he is tachycardic (HR 160/min), tachypneic (RR 48/min), cold clammy peripheries, capillary refill time of 5 secs, BP 74/42 mm of Hg.
 - a) Discuss the diagnostic definition of pediatric sepsis as outlined in the 2026 Surviving Sepsis Campaign (SSC) guidelines. Briefly contrast this with the previous criteria
 - b) Formulate a step-by-step fluid resuscitation and hemodynamic monitoring strategy for this child
 - c) Briefly discuss the principles of antimicrobial therapy according to SSC 2026
 - d) Discuss the 2026 sepsis updates regarding respiratory support, targeting safe oxygenation zones, and metabolic adjunctive therapies
 - e) Outline the screening approach for post-sepsis morbidity risk and the long-term multidisciplinary follow-up protocol for survivors

Short Essays**(8 x10 = 80)**

2. Discuss the gene replacement therapy and disease modifying agents in spinal muscular atrophy (SMA).
3. Brief notes on 2023 WHO guidelines on the management of severe acute malnutrition (SAM) with a focus on updates to fluid resuscitation in shock.
4. Discuss briefly on the role of biologicals and small molecules in the management of refractory pediatric inflammatory bowel disease.
5. Write briefly on the clinical applications and physiological indices of respiratory oscillometry testing in children.
6. Describe the classification of bronchial asthma in less than 5-year-old child as per recent GINA (2026) guidelines and the management plan?
7. Discuss the “guideline directed medical therapy” for cardiac failure in children and the titration milestones for angiotensin receptor neprilysin inhibitors (ARNI’s) and SGLT2 inhibitors.
8. Discuss the recent advances in management of thalassemia.
9. Discuss the recent approach to diagnosis and management of neonatal cholestasis.