



**NEPHROLOGY**

**PAPER – I**

NEPH/D/14/20/I

Time : 3 hours

Max. Marks : 100

**Important instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

1. a) Structure of glomerular basement membrane. 5+5  
b) Juxta glomerular apparatus.
  
2. a) Tubulo-glomerular feed back. 5+5  
b) Pharmacological influences on renal haemodynamics.
  
3. a) Counter current mechanisms. 6+4  
b) Carbonic anhydrase and kidney.
  
4. a) Enumerate the markers for measuring glomerular filtration rate (GFR). 2+2+6  
b) Mention the limitations of serum creatinine as a marker of GFR.  
c) Mention the estimated GFR equations & bring out their limitations.
  
5. a) Enumerate the various transport proteins present in the renal tubules. 2+8  
b) Mention the diseases associated with genetic mutation in these transport proteins.
  
6. Role of urinalysis in the diagnosis of various renal disorders. 10
  
7. a) Diagnostic approach to a patient with hypernatremia. 5+5  
b) Outline approach to correction of hypernatremia.
  
8. a) Transtubular Potassium Gradients. 4+4+2  
b) Urinary anion gap.  
c) Mixed acid base disorders with two examples.
  
9. a) T Cell activation in renal transplant. 6+4  
b) MHC class I and class II molecules.
  
10. a) Membrane biocompatibility. 3+3+4  
b) Ultra pure water for dialysis.  
c) Peritoneal equilibration test and its utility.

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