

## MANIPAL UNIVERSITY

SECOND YEAR M.Sc. (RRT &amp; DT) DEGREE EXAMINATION – JUNE 2016

SUBJECT: MDT 701a – ADVANCED HD PROCEDURES, COMPLICATIONS IN RENAL DISEASE PATIENTS & DIALYSIS PATIENTS AND PATIENT EDUCATION  
(2 YEARS PROGRAMME – 2014-15)

Wednesday, June 01, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ Answer ALL the questions.

- 1A. Complications of peritoneal dialysis include
- Fluid overload
  - Protein loss
  - Hyperglycemia
  - All of the above
- 1B. Which ion involves in blood coagulation
- Magnesium
  - Potassium
  - Calcium
  - Phosphorus
- 1C. Continuous ambulatory peritoneal dialysis is best suited for a person
- Who lives far away from the hemodialysis center
  - To preserve residual renal function
  - Cardiac failure
  - All of the above
- 1D. Complications related to aluminium in the dialysis water include
- Osteomalacia
  - Dementia
  - i) & ii) both
  - None of the above
- 1E. Kt/V for peritoneal dialysis should be at least
- 1.2/week
  - 0.6/week
  - 1.7/week
  - 3.5/week
- 1F. Heparin causes all of the following except
- Thrombocytopenia
  - Hypotension
  - Alopecia
  - Osteoporosis
- 1G. Hemoperfusion is a therapy used for
- Urea removal
  - Plasma removal
  - Poison removal
  - All of the above

- 1H. Complications of Peritoneal dialysis does not include
- i) Encapsulating peritoneal sclerosis
  - ii) Peritonitis
  - iii) Thrombocytopenia
  - iv) Tunnel infection
- 1I. Activated carbon filter media is made up of
- i) Charcoal
  - ii) Coal
  - iii) Graphite
  - iv) Calcium
- 1J. ECG changes indicative of potassium intoxication include
- i) Tall tented T waves
  - ii) Prolonged PR intervals
  - iii) Wide QRS complex
  - iv) All of the above

(1 mark × 10 = 10 marks)

2. **Long essay questions:**

- 2A. Explain complications related to dialysis access.
- 2B. Which are the complications that may occur during hemodialysis treatment? Explain risk factors, causes and management.

(10 marks × 2 = 20 marks)

3. **Short essay questions:**

- 3A. Write a note on complications of hemoperfusion.
- 3B. Discuss complications associated with types of renal anemia treatment.
- 3C. Discuss disequilibrium syndrome.
- 3D. How can counselling helps in management of end stage kidney disease patients on hemodialysis?
- 3E. Write a note on common investigations done for hemodialysis patients.
- 3F. Write a note on pulmonary edema.

(5 marks × 6 = 30 marks)

4. **Short note questions:**

- 4A. Why arteriovenous fistula is the best vascular access?
- 4B. What are the disadvantages of post and pre dilution in continuous renal replacement therapy?
- 4C. Mention any four problems of high flux dialyzer.
- 4D. Write any two complications associated with dextrose peritoneal dialysis fluid.
- 4E. What is the normal pH of blood? Define acidemia.
- 4F. Name any two common psychological disorders found in chronic kidney disease patients.
- 4G. What meant nocturnal dialysis? How it is useful?
- 4H. What are the complications may occur due to improper priming?
- 4I. List the complications associated with acute kidney injury.
- 4J. Define chronic kidney disease.

(2 marks × 10 = 20 marks)



**MANIPAL UNIVERSITY****SECOND YEAR M.Sc. (RRT & DT) DEGREE EXAMINATION – JUNE 2016****SUBJECT: MDT 701 – BASIC PRINCIPLES AND OVERVIEW OF TYPES OF RENAL REPLACEMENT THERAPY (HD & PD) & THEIR APPLICATION TO PATIENT CARE  
(THREE YEARS PROGRAMME)**

Wednesday, June 01, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions:**

- 1A. All of the following are causes of acute kidney injury EXCEPT
- Drugs
  - Hypotension
  - Depression
  - Blunt abdominal trauma
- 1B. Cardiopulmonary recirculation is absent in
- Arteriovenous shunt
  - Arteriovenous fistula
  - Arteriovenous graft
  - None of the above
- 1C. Peritoneal dialysis patients have a \_\_\_\_\_ protein requirement than transplant recipients
- Higher
  - Lower
  - Same
  - Any of the above
- 1D. Which of the following is the longest acting Epoetin?
- Epoetin alpha
  - Darbepoetin
  - Epoetin gamma
  - MIRCERA
- 1E. A low protein diet in chronic kidney disease 4
- May reduce progression of the underlying renal disease
  - May reduce azotemia
  - i) & ii) are both correct
  - i) & ii) are both incorrect
- 1F. In water purification carbon filter removes
- Organic compounds
  - Chlorine
  - Chloramine
  - All of the above
- 1G. Removal of 1 plasma volume reduces macromolecules by
- 39%
  - 63%
  - 78%
  - 86%



- 1H. Phosphorus is rich in
- Dairy products
  - Vegetables
  - Coffee
  - All of the above
- 1I. High flux membranes have KUF >
- 2ml/hr/mmHg
  - 5 ml/hr/mmHg
  - 10 ml/hr/mmHg
  - 8 ml/hr/mmHg
- 1J. Conductivity corresponds to
- Na
  - K
  - Cl
  - Ca

(1 mark × 10 = 10 marks)

2. **Long essay questions:**

- 2A. Discuss similarity and differences between hemodialysis and peritoneal dialysis as treatments for end stage renal disease.
- 2B. Discuss MARS.

(10 marks × 2 = 20 marks)

3. **Short essay questions:**

- 3A. Describe the importance of managing dietary potassium in chronic renal failure.
- 3B. Discuss the complications of plasmapheresis.
- 3C. Describe the types of dialyser membranes.
- 3D. Discuss post care of arteriovenous fistula creation.
- 3E. What are the complications of hemodialysis catheter insertion & how can they be prevented?
- 3F. Discuss heparin anticoagulation methods used for hemodialysis.

(5 marks × 6 = 30 marks)

4. **Short note questions:**

- 4A. What is fiber bundle volume?
- 4B. What is Allen's test?
- 4C. What is icodextrin?
- 4D. Name two dialyzable toxins.
- 4E. What is sodium ramping?
- 4F. Name the complications of erythropoietin treatment.
- 4G. How hypocalcemia of chronic kidney disease is treated?
- 4H. What is hemadsorption?
- 4I. What are advantages of dialyzer reuse?
- 4J. How to prevent Dialysis disequilibrium syndrome.

(2 marks × 10 = 20 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR M.Sc. (RRT & DT) DEGREE EXAMINATION – JUNE 2016

SUBJECT: MDT 702 – MANAGEMENT OF HEALTHCARE ORGANIZATION  
(THREE / TWO YEARS PROGRAMME 2014-15)

Friday, June 03, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**Answer ALL the questions:**

1. Define Biomedical Waste. Write briefly on the available guidelines/law for proper disposal of Hospital waste.

(5+15 = 20 marks)

2. **Write short notes on the following questions:**

- 2A. Hospital Information System (HIS)  
2B. History of hospitals  
2C. Inventory control in hospitals  
2D. Theories of motivation  
2E. Consumer protection Act (CPA)  
2F. Need for Accreditation in hospitals

(10 marks × 6 = 60 marks)



**MANIPAL UNIVERSITY****SECOND YEAR M.Sc. (RRT & DT) DEGREE EXAMINATION – JUNE 2016****SUBJECT: MDT 703 – RENAL TRANSPLANTATION  
(3 YEARS PROGRAMME)**

Monday, June 06, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**1. Single best answer:**

- 1A. The genes for human leucocyte antigen proteins are clustered in the major histocompatibility complex located
- On the short arm of chromosome 6
  - On the long arm of chromosome 6
  - On the short arm of chromosome 10
  - On the long arm of chromosome 10
- 1B. Weight gain is usually caused by
- Mycophenolate
  - Steroids
  - Anti-thymocyte globulin
  - Sirolimus
- 1C. Immunity which is achieved by introduction of antigen artificially in body is called
- Active immunity
  - Naturally acquired immunity
  - Autoimmunity
  - Artificially acquired immunity
- 1D. One of the following is not true about Post transplant lymphoproliferative disease (PTLD)
- Is associated with Epstein Barr virus infection
  - Is managed by increasing immunosuppression
  - Is a lymphoma
  - Can present with lymphadenopathy
- 1E. Origin and maturation of B cells takes place in the
- Liver
  - Thymus
  - Bone marrow
  - lymph nodes
- 1F. A graft between members of the different species is termed an
- Autograft.
  - Isograft.
  - Xenograft
  - Allograft
- 1G. All of the drugs are used in immunosuppression in transplantation except
- Tacrolimus
  - Mycophenolate
  - Steroids
  - Cyclophosphamide

- 1H. Tacrolimus acts by
- Inhibition of B cells
  - Inhibition of T cells
  - Inhibition of immune system
  - Inhibition of major histocompatibility complex
- 1I. Decoy cells in BK virus nephropathy are characteristically seen in
- Blood
  - Urine
  - Cerebrospinal fluid
  - All of the above
- 1J. Banff classification is used for interpretation of
- Good pasture's syndrome
  - Lupus nephritis
  - Transplant kidney biopsy
  - None of the above

(1 mark × 10 = 10 marks)

2. **Long essay questions:**

- 2A. Discuss how white blood crossmatching is performed.
- 2B. Describe the workup for a potential kidney donor.

(10 marks × 2 = 20 marks)

3. **Short essay questions:**

- 3A. Discuss calcineurin inhibitor used in kidney transplantation.
- 3B. Discuss non heart beating donor transplantation.
- 3C. Discuss the absolute contraindications for kidney transplantation.
- 3D. Describe innate immunity.
- 3E. What are the options available for transplantation of the highly sensitized patients?
- 3F. Describe induction immunosuppression.

(5 marks × 6 = 30 marks)

4. **Short note questions:**

- 4A. What is tolerance?
- 4B. List the side effects of steroids.
- 4C. Write the types of major histocompatibility cells.
- 4D. What is xeno transplantation?
- 4E. What are the causes for high panel reactive antibody level?
- 4F. Name any two kidney disease that can recur after transplant.
- 4G. What are the causes of delayed graft function?
- 4H. List the common post-transplant neoplasia.
- 4I. Write a note on memory cells.
- 4J. Write the functions of helper T cells.

(2 marks × 10 = 20 marks)

