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**Clinical pharmacy  
 Final Exam**

- This exam consists of 75 questions, each one worth 2 marks (total 150 marks)
- Select the most appropriate answer

1	A	B	<del>C</del>	D	E
2	<del>A</del>	B	C	D	E
3	<del>A</del>	B	C	D	E
4	A	B	C	<del>D</del>	E
5	A	B	<del>C</del>	D	E
6	A	B	<del>C</del>	D	E
7	A	<del>B</del>	C	D	E
8	A	B	C	<del>D</del>	E
9	A	B	<del>C</del>	D	E
10	A	<del>B</del>	C	D	E
11	A	B	C	<del>D</del>	E
12	A	B	<del>C</del>	D	E
13	<del>A</del>	B	C	D	E
14	A	B	C	<del>D</del>	E
15	<del>A</del>	B	C	D	E
16	A	<del>B</del>	C	D	E
17	A	<del>B</del>	C	D	E
18	A	B	<del>C</del>	D	E
19	A	B	<del>C</del>	D	E
20	A	B	C	<del>D</del>	E
21	A	B	<del>C</del>	D	E
22	<del>A</del>	B	C	D	E
23	A	<del>B</del>	C	D	E
24	<del>A</del>	B	C	D	E
25	A	<del>B</del>	C	D	E
26	<del>A</del>	B	C	D	E
27	A	<del>B</del>	C	D	E
28	<del>A</del>	B	C	D	E
29	<del>A</del>	B	C	D	E
30	A	<del>B</del>	C	D	E
31	<del>A</del>	B	C	D	E
32	A	<del>B</del>	C	D	E
33	<del>A</del>	B	C	D	E
34	A	B	C	<del>D</del>	E
35	A	B	<del>C</del>	D	E
36	A	B	C	D	<del>E</del>
37	<del>A</del>	B	C	D	E
38	A	B	C	<del>D</del>	E
39	A	B	C	D	<del>E</del>
40	A	B	<del>C</del>	D	E
41	A	B	<del>C</del>	D	E
42	A	B	C	D	<del>E</del>
43	A	B	C	<del>D</del>	E
44	A	B	C	D	<del>E</del>
45	A	B	C	D	<del>E</del>
46	A	B	<del>C</del>	D	E
47	A	B	<del>C</del>	D	E
48	A	B	C	<del>D</del>	E
49	A	B	C	D	<del>E</del>
50	A	B	C	D	<del>E</del>
51	<del>A</del>	B	C	D	E
52	A	B	C	<del>D</del>	E
53	A	B	C	<del>D</del>	E
54	A	B	C	<del>D</del>	E
55	A	B	C	<del>D</del>	E
56	A	B	C	<del>D</del>	E
57	A	B	<del>C</del>	D	E
58	A	B	<del>C</del>	D	E
59	A	<del>B</del>	C	D	E
60	A	B	C	D	<del>E</del>
61	A	B	C	<del>D</del>	E
62	A	B	<del>C</del>	D	E
63	A	B	<del>C</del>	D	E
64	A	B	<del>C</del>	D	E
65	A	B	<del>C</del>	D	E
66	A	B	<del>C</del>	D	E
67	A	B	C	<del>D</del>	E
68	A	<del>B</del>	C	D	E
69	A	B	C	<del>D</del>	E
70	A	B	<del>C</del>	D	E
71	A	B	<del>C</del>	D	E
72	A	B	<del>C</del>	D	E
73	<del>A</del>	B	C	D	E
74	A	<del>B</del>	C	D	E
75	<del>A</del>	B	C	D	E

**PART I (Dermatology: 25 questions, 50 marks)**

**1- Sebaceous glands are found:**

- A- Everywhere on the skin      B- on the palms of the hands and soles and dorsa of the feet  
C- Everywhere on the skin apart from the palms of the hands and soles and dorsa of the feet      D- None of the above

**2- The sweat reaching the surface of the skin is:**

- A- Hypotonic      B- Hypertonic      C- Isotonic

**3- Examples of primary lesions are:**

- A- Nodule, papule and burrow      B- Nodule, vesicle and crust  
C- Nodule, plaque and ulcer

**Question (4-6) A patient came to the clinic suffers from erythematic, hot, and swollen area on his leg. He stated that there was a minor abrasion, and denied any insect bite.**

**4-The suggestive diagnosis is:**

- A- Impetigo      B- Urticaria      C- Eczema      D- Cellulitis

**5- Instructions for this patient**

- A- Avoid eggs, chocolate, milk      B- Sunscreen should be used      C- Bed rest  
D- All of the above      E- None of the above

**6- Treatment includes:**

- A- Topical corticosteroid      B- Calamine lotion      C- Parental cephalosporine

**Question (7-10) An obese female suffers from well defined erythematous, scaly patches in the upper inner thigh. She stated that she prefer wearing occlusive clothes in order not to appear fat.**

**7-The suggestive diagnosis is:**

- A- Herpes zoster      B- Tinea cruris      C- Varicose eczema  
D- Candida paronychia

**8-The origin of this disease is:**

- A- Bacterial      B- Viral      C- Fungal      D- None of the above

**9- Treatment includes:**

- A- Topical fusidic acid      B- Topical acyclovir      C- Topical terbinafine  
D- None of the above

**10- Instructions to this patient**

- A- Avoid contact with animal      B- Use cottony clothes  
C- Use wet clothes to reduce the inflammation      D- All of the above

**11- Topical benzyl benzoate can be treatment for:**

- A- Scabies      B- Pediculosis      C- Acne vulgaris  
D- Both A & B      E- All of the above

**Question (12-14) A patient came suffering from itching erythematous whitish patches surrounded by red halo, they are multiple, coalesce together to cover large area of the body surface. He stated that it appears after penicillin injection.**

**12- The suggestive diagnosis is:**

- A- Allergic contact dermatitis                      B- Psoriasis                      C- Urticaria  
D- None of the above

**13- Pathogenesis may be:**

- A- Dilatation of the capillaries                      B- Immune-mediated  
C- Inflammatory reaction provoked by factor                      D- None of the above

**14- Treatment includes:**

- A- Carbamide cream                      B- Hydroquinone cream  
C- Minoxidil lotion                      D- None of the above

**Question (15-18) A patient suffers from pain on walking, the doctor found a small area of thickened skin slightly raised with black dot appearance on the sole of his foot.**

**15- The suggestive diagnosis is:**

- A- Wart                      B- Corn                      C- Tinea Pedis                      D- Psoriasis

**16- If the answer is (A), the type is:**

- A- Common                      B- Plantar                      C- Plane                      D- Digitiform                      E- None of the above

**17- The best method for treatment:**

- A- Electrocautery                      B- Topical salicylic acid                      C- Topical clotrimazole  
D- Topical tar                      E- None of the above

**18- Instruction for the patient is:**

- A- Balneotherapy (bathing in water containing salts, with natural exposure to sun)  
B- Change socks daily and dry foot                      C- Never share foot wears.  
D- All of the above

**Question (19-21) A patient suffers from nodulo- cystic acne**

**19- The suitable treatment is:**

- A- Topical tretinoin                      B- Topical azeleic acid + topical benzoyl peroxide  
C- Oral isotretinoin                      D- Oral corticosteroid

**20- This therapy requires monitoring for:**

- A- Blood glucose level                      B- Lipid profile                      C- Liver function tests  
D- All of the above                      E- None of the above

**21- Instruction for the patient:**

- A- Use scrubbing every week to help cleansing                      B- Use cosmetics to hide the nodule  
C- Avoid spicy food and nuts                      D- All of the above

**22- Lab investigations in androgenic alopecia reveal:**

- A- High dehydrotestosterone                      B- Low serum level of 5-alpha reductase  
C- High Sex hormone binding globulin                      D- None of the above

23-PUVA is a therapy program used for treatment of:

- A- Psoriasis      B- Vitiligo      C- Alopecia      D- None of the above

24- Methotrexate can be used for treatment of:

- A- Psoriasis      B- Vitiligo      C- Alopecia      D- None of the above

25- (Auspitz sign) is noticed as bleeding points on removal the patches found in:

- A- Candidal oral thrush      B- Scabies      C- Psoriasis      D- None of the above

**PART II: RENAL DISEASES (Q # 26-50 = 50 mark)**

**Addendum**

Lab Test	Pre-renal Azotemia	Acute Intrinsic RF	Post-renal Obst
Urine sediment	Normal Casts	Brown casts	Cellular debris
Urinary RBC	None	2-4	Variable
Urinary WBC	None	2-4	1
Urine sodium	< 20	> 40	> 40
Fe Na (%)	< 1	> 1-2	Variable
Urine osm: Serm osm	> 1.5	< 1.3	< 1.5
BUN/SCr	20:1	15:1	15:1
Urine osmo	> 500	> 350	> 350

- Calculated CLCr = Creatinine excreted X Urine volume ÷ Time in min. X SCr
- Fe Na = [(SCr X Urinary Na)] ÷ [(S Na X Urinary Cr)] X 100
- IBW (male) = 50 + 2.3 X height in inches > 60 inches
- IBW (Female) = 45 + 2.3 X height in inches > 60 inches
- Inch = 2.54 cm
- Foot = 12 inch

\*\* A 34 year old man went to his doctor complaining of severe side and back pain, which got worse while he slept. The Physician ordered laboratory analysis

**Urinalysis**

**Color:** Dark; **albumin:** creatinine ratio: 25 mg: 1 gm; **Appearance:** Cloudy; **Glucose:** +2; **Urobilinogen:** Normal; **Sp. Gravity:** 1020; **FE Na:** 0.85; **Ketones:** Negative; **Nitrite:** Positive; **PH:** 5.7; **Urobilinogen:** Positive; **Heme:** Positive

**Microscopy**

**RBCs:** 0; **Pus:** 50-60; **Crystal:** Many

**Blood analysis:**

**FBG:** 115 mg/dl (N: Up to 126 mg/dl); **PPBG:** 165 mg/dl dl (N: < 200 mg/dl); **SCr:** 1.2 mg/dl (N: 0.5 - 1.5 mg/dl); **Total Bilirubin:** 2.2 mg/dl (N: 0.3 - 1.9 mg/dl); **AST:** 18 (N: 5 - 40 IU/L); **Alkaline phosphatase:** 56 (N: 44 - 147 IU/L)

26. According to data, this man suffers from urinary tract infection

- A. True      B. False

27. Do you think that, the man has a nephrotic syndrome?

- A. True      B. False

28. Is the man kidney maintaining its concentrating ability?

- A. True      B. False

29. Is urinalysis results show any incorrect result (s)?

- A. True      B. False

30. The crystals present in the urine sample may be:

- A. Oxalate      B. Urate      C. Both Oxalate + Urate      D. Neither

31. This man may suffer from hemolysis?

- A. True      B. False

32. The elevated Bilirubin level and dark urine is due to liver disease or cholestasis

- A. True      B. False

33. This man may have pre-renal azotemia?

- A. True      B. False

\*\* A 14 year old boy went to his doctor complaining of severe side and back pain, which got worse while he slept. His family history showed males on both his mother's side and his father's side with chronic kidney stones. Intravenous pyelography with X-Ray pelvis showed radio-opaque stone in his left kidney. Urinalysis and microscopic examination of urine showed: **Color:** yellow, **Appearance:** cloudy, **Protein:** negative, **Glucose:** negative, **Urobilinogen:** normal trace, **osmolarity:** 1025, **Ketones:** negative, **Nitrite:** negative, **PH:** 5.5, **Bilirubin:** negative, **RBCs:** 10-20/hpf, **WBCs:** 0-1/hpf and many crystals which look like this:



34. What is the name of the major crystal present?

- A. Urate crystals      B. Calcium crystal      C. Triple phosphate crystal  
D. Cystine crystal      E. Both A and D

35. Which of the following is most likely cause formation of such crystal?

- A. Hyperuricosuria      B. Hypercalciuria      C. Aminoaciduria  
D. UTI      E. None of the above

36. The most ideal treatment for this type of crystals or stones is:

- A. Allopurinol + Alkali therapy      B. Penicillamine (Retadel™)  
C. Surgical removal plus antibiotic plus hydroxyurea  
D. Pyridoxine  
E. Oral  $\alpha$ -mercaptopyrionyl-glycine

37. Do you expect, the urine may contain other materials not reported by the analyst

- A. Yes      B. No

\*\* MA is a 65-year-old; alcohol abuser man who suffers from testicular cancer, for which 6 cycles of combination chemotherapy composed of "Cis-platin, Methotroxate & 5-FU" was initiated and preceded by two setting of uro-genital system irradiation. After the third course Mr. MA starts to suffer from oliguria and a decreased force of the urinary stream. His urine analysis data revealed: acidic urine, presence of WBCS, RBCS, coarse granular casts and protreinuria. His blood analysis revealed both High serum creatinine and high BUN

38. The most common cause of MA renal toxicity is/are:

- A. Methotrexate  
B. Cis-platin  
C. 5-FU  
D. Both A and B  
E. All of the above

39. The proposed patho-physiologic mechanism (s) of this nephrotoxicity is/are:

- A. Obstructive nephropathy  
B. Renal tubular necrosis  
C. Renal vascular alterations  
D. Both A and B  
E. All of the above

40. This toxicity can be managed by all the following **EXCEPT**:

- A. Febuxostate  
B. Alkali therapy  
C. Hydration  
D. All of the above  
E. None of the above

\* Tony is 30 years old man, visited his community hospital complaining of 3 month history of fatigue, weakness, nausea, vomiting (non responsive to domperidone or metoclopramide), black stool, hiccups, itching, peripheral neuropathy, liver flap, and reversal sleep wake cycle. His previous history indicated an ongoing history of bed wetting due to renal problem from an early age

**Laboratory results and physical examination:** Sodium 140 mmol/L (N: 135-145), Potassium 4.2 meq/L (N: 3.5-5.5), Phosphate 2.5 mmol/L (N: 0.9-1.5), Calcium 1.6 mmol/L (N: 2.2-2.5), BUN 55 mmol/L (N: 3-6.5), Creatinine 620  $\mu$ mol/L (N: 50-120), 7.5 g/l (N: 13-18), Ferritin 8  $\mu$ g/L (N: 15-300), HTC 0.35 (N: 0.4-0.55), FBG 180 mg/dl (N: 85-126), C1er 10 ml/min (N: 100-140), Triglyceride 260 mg/dl (N: 200), cholesterol 235 mg/dl (N: 200) parathyroid hormone 88 pg/ml (11-54 pg/ml), bicarbonate 15 (21-28mEq/L), blood ammonia 11 (20-45 mcg/dl). Subsequent referral to a specialist revealed stage I hypertensive patient, bone scan reveals osteoporosis.

41. According to the case, Tony suffers from:

- A. Acute renal failure stage  
B. Renal insufficiency  
C. End stage renal disease  
D. Chronic renal failure stage  
E. Decrease renal reserve

42. Regarding the case, the main cause (s) or risk factor (s) of Tony disease is/are:

- A. Diabetes Mellitus  
B. Hyperlipidemia  
C. Hypertension  
D. Both B& C  
E. All of the above

43. According to the case, the causes of Tony osteodystrophy include:

- A. Hyperphosphatemia and hyperparathyroidism  
B. Decreased ammonia  
C. Low level of bicarbonate  
D. All of the above  
E. None of the above

44. Regarding to the case and your basic information, which of the following pharmacotherapy for Tony seems **NOT** necessary?

- A. Ferrous sulfate 324 mg daily  
B. Isradipine  
C. Mg salts  
D. Vitamin D supplement  
E. None of the above

45. According the case, the indication of dialysis for Tony involves all the following **EXCEPT**:

- A. Intractable nausea and vomiting  
B. Non cardiogenic pulmonary edema  
C. Peripheral neuropathy  
D. Astrexis  
E. None of the above

\*\* Katrina is a 60 years old woman weighing 65 kg with a history of dilated cardiomyopathy. She was admitted to renal clinic for regular check up and evaluation of her overall medical condition

**Past medical history:** Dilated cardiomyopathy for over 5 years, hyperlipidemia diagnosed 2 years ago

**Medication history:** Digoxin 0.125 mg P.O QD, Furosemide 40 mg P.O QD, Carvidolol 6.25 mg P.O BID, captopril 10 mg P.O QD, Atrovastatin 10 mg once daily and indomethacin for her arthralgia

**Physical examination:** Ill appearing woman in moderate stress, BP 110/70; T 39 °C

**Blood laboratory examinations:** Sodium 130 meq/l (N:130-140), Potassium 6.5 meq/l (3.5 meq/l last month: N=3.5 -5.5), Chloride 104 meq/l, CO<sub>2</sub> content 18 meq/l, BUN 76 mg/dl (40 mg/dl last month), Serum creatinine 3 mg/dl (2 mg/dl last month), random blood glucose 160 mg/dl, blood osmolarity 350, Calcium 9 mg/dl, Phosphorus 3 mg/dl, Albumin 3.2 (N: 3.5-5) g/dl, Hb 9.2 g/l (N: 13-18), SGPT 22 IU (N: up to 55 IU), Hematocrite 29 % (N: 36-42%), Platelet 130,000/mm<sup>3</sup> (N: 150,000- 400,000), WBCs 3000/mm<sup>3</sup> (N: 4000- 11000), total cholesterol 252 (N: 200 mg/dl)

**Urine analysis:** Hyaline casts, Sodium 10 meq/l, Volume 380 ml in the last 24 hours, S.G 1025, Creatinine 50 mg/dl, urine osmolarity 600, Protein 200 mg/day, WBCs 0-1, RBCs 0-1. Glucose: Nil

**46. Calculated CrCL and (FENa) for Katrina is approximately equal to:**

- A. 6.55 ml/min and 0.682 %  
B. 18.2 ml/min and 1.2 %  
C. 4.398 ml/min and 0.462 %  
D. 5.35 ml/min and 0.654 %  
E. None of the above, it is nearly equal to.....ml/min and.....%

**47. Regarding to your answers in (Q ≠ 46) and concerning your case and its laboratory results, U Na, BUN: SCr and Uosm: Serum osm, Uosm Katrina has:**

- A. Chronic renal failure  
B. Acute intrinsic renal failure  
C. Functional acute renal failure  
D. Pre-renal azotemia with systemic hypotension  
E. Pre-renal azotemia without systemic hypotension

**48. Regarding to the case, what is/ are factor (s) that lead to the development of Katrina current renal status?**

- A. Decline in ejection fraction  
B. Use of indomethacin and captopril  
C. Hyperlipidemia  
D. Both A and B  
E. All of the above

**49. Regarding to the case, all the following can be used as pharmacotherapy for Katrina renal status EXCEPT:**

- A. Antibiotic therapy  
B. Calcium gluconate  
C. ESA  
D. Fluid therapy  
E. None of the above

\*\*After several weeks of care, Katrina renal function was stabilized and her cardiomyopathy is under control but she starts to experience nausea, GIT upset and fine tremors suggesting digitalis toxicity

**50. According to information of case and your basic information, which of the following measures can be used to treat Katrina induced digitalis toxicity?**

- A. Substitute digoxin by digitoxin  
B. Digitalis FAB  
C. Shift Katrina from captopril to lisinopril  
D. Both A and B  
E. All of the above

51- *Epileptic seizure is one of the following :*

- a) A clinical manifestation of an abnormal electrical discharge of neurons.
- b) A clinical manifestation of a very low threshold electrical normal discharge of neurons.
- c) A clinical manifestation of a very high threshold electrical normal discharge of neurons.
- d) Non of the above

52- *During a seizure you may, (one of the following is right) :*

- a) Normalities of sensation or emotion.
- b) Sleep all the day.
- c) Loss of consciousness.
- d) a & c .

53- *Epilepsy characterized by one of the following:*

- a) chronic neurological condition .
- b) characterized by recurrent many times.
- c) sometimes stare into space.
- d) all of the above .
- e) non of the above .

54- *Seizure are caused by :*

- a) abnormal brain function.
- b) normal brain function.
- c) unknown what causes the mal function .
- d) a & c .

55- *Causes of seizures in new born :*

- a) Congenital brain abnormalities .
- b) Maternal drug use.
- c) Birth injuries .
- d) All of the above.

56- *Causes of seizures in children may be due to :*

- a) Infections.
- b) Genetic.
- c) Antioxidant administration .
- d) a & b

57- *Seizure disorder usually develops within one of the following :*

- a) One day of injury .
- b) One month of injury .
- c) One year of injury.
- d) One week of injury.



**58- Risk factors of seizures are one of the following :**

- a- Cold water drink .
- b- Soft drink like cola .
- c- History of complex febrile seizures .
- d- All of the above.

**59- Epileptic seizures are classified into :**

- a) Right or left brain tumor.
- b) Generalized and partial.
- c) Front and dorsal brain injuries.
- d) Non of the above.

**60- grandmal epilepsy is characterized by one of the following:**

- a) Tonic seizure only have a sudden onset .
- b) Clonic seizure only have a sudden onset.
- c) Is the most common type of seizure .
- d) Tonic clonic seizure have a sudden onset.
- e) c & d.

**61- Signs of grandmal epilepsy are two of the following :**

- a) Loss of consciousness.
- b) Person full down.
- c) Last about 10\_20 hrs.
- d) a & b.

**62- Simple petitmal epileptic seizure is one of the following :**

- a) Common before the age of 5 years.
- b) Tonic – chronic convulsive reaction.
- c) Uncommon before the age of 5 years .
- d) Uncommon after the age of 5 years .

**63- Partial seizure may be due to one of the following:**

- a) Maternal drug use.
- b) Unlocalized injury in the brain.
- c) Localized injury in the brain which evaluated due to tumor, stroke.
- d) Non of the above.

**64- Single photon emission computed tomography (SPECT) ,is one of the following to diagnose seizure :**

- a) Shows activity in the brain.
- b) To test (CSF ) for infections.
- c) Imaging test that shows blood flow in the brain.
- d) Non of the above.

**65- Primary goal of drug therapy for epileptic seizure is one of the following :**

- a) Control the depressive mood of the patient .
- b) Elevate the serotonin level in the patient.
- c) Maximize seizure control and minimize to keep side\_ effects.
- d) The cheapest drug therapy to control the condition.

**66- Carbamazepine used as the first choice for one of the following :**

- a) Absence seizure only .
- b) Partial seizure only .
- c) Partial, generalized and mixed seizure.
- d) All of the above.

**67- Ethosuximide used to treat one of the following:**

- a) Mixed seizure.
- b) Generalized seizure .
- c) Febrile seizure .
- d) Absence seizure.

**68 – Depression definition as one of the following**

- a) Common, acute and potentially debilitating illness that has tempered the human condition.
- b) Common chronic and potentially debilitating illness that has tempered the human condition.
- c) Uncommon , chronic and potentially debilitating illness that has tempered the human condition.
- d) All of the above.

**69- Diagnosis of depression by one of the following :**

- a) Loss of interest in pleasure activities only .
- b) Change in weight or appetite.
- c) Fatigue or loss of energy.
- d) All of the above .

5/1/00

**70- Condition that mimic depression are (the following is right except one) :**

- a) Parkinson s syndrome.
- b) CHF.
- c) Acute malaria.
- d) Hypothyroidism.

**71- Medication that may induced depression , the following rights except one:**

- a) Clonidine .
- b) Methyl dopa.
- c) Aspirin
- d) Barbiturates.

**72- Depressive with melanocolic features characterized by one of the following :**

- a) Hypersomnia .
- b) Leading paralysis .
- c) Weight loss.
- d) All of the above.

**73- Depression with Atypical features characterized by, the following right except one :**

- a) Hypersomnia .
- b) Rejection and sensitivity
- c) Weight loss.
- d) Non of the above.

**74- Depression is due to low concentration of serotonin and norepinephrine ,**

- a) True
- b) False

This is because :

**75- Nondrug therapy is the first choice for depression including , the following right except one**

- a) Radiotherapy.
- b) ETC.
- c) Sleep deprivation.
- d) Light therapy.