**BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI**

**Pharmacology-II (PHA F341)**

**Mid Semester Examination (CLOSED BOOK)**

**Date: 06/03/2017 Duration: 90 Minutes Weightage: 35% Marks: 39M**

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**Instructions: Write correct and precise answers (No Spelling Mistakes). Writing YES/No or name of the drug, is not sufficient to get marks, you have to justify the YES/NO or name of drug. Marks will only be given to correct and well explained answer and not to partial answers.**

1. An elderly patient with a history of heart disease and who is having difficulty breathing is brought into the emergency room. Examination reveals that she has pulmonary edema. As a physician, which drug will you recommend and why? **2M**
2. Compensatory increases in heart rate and renin release that occur in heart failure may be alleviated by which of the following drugs and why? **2M**

 A. Digoxin. C. Dobutamine. D. Enalapril. E. Metoprolol.

1. A 56-year-old patient complains of chest pain following any sustained exercise. He is diagnosed with atherosclerotic angina. He is prescribed sublingual nitroglycerin for treatment of acute chest pain. Which of the following adverse effects is likely to be experienced by this patient? Explain why calcium channel blockers are used in the treatment of Angina. **2M**

 A. Hypertension. B. Throbbing headache. C. Bradycardia. D. Sexual dysfunction.

1. A 45-year-old man has recently been diagnosed with hypertension and started on Captopril to reduce peripheral resistance and prevent NaCl and water retention. He has developed a persistent cough. Which of the following drugs would have the same benefits but would not cause cough? Why Captopril is often combined with hydrochlothiazide.? **2M**

 A. Losartan. B. Nifedipine. C. Prazosin. D. Propranolol.

1. An alcoholic male has developed hepatic cirrhosis. To control the ascites and edema, he is prescribed which one of the following drug and why?. Explain the mechanism of action of the prescribed drug.

 A. Hydrochlorothiazide. B. Acetazolamide. C. Spironolactone. E. Chlorthalidone. **2M+ 2M**

1. A 55-year-old male with kidney stones has been placed on a diuretic to decrease calcium excretion. However, after a few weeks, he develops an attack of gout. Why? Which diuretic was he taking?

 A. Furosemide. B. Hydrochlorothiazide. C. Spironolactone. D. Triamterene. **2M**

1. Digitalis has a profound effect on myocyte intracellular concentrations of Na+, K+, and Ca2+. These effects are caused by digitalis inhibiting: **1M**

 A. Ca2+ adenosine triphosphatose (ATPase) of the sarcoplasmic reticulum. B. Cardiac phosphodiesterase.

 C. Na+/K+-ATPase of the myocyte membrane. D. Cardiac β1 receptors.

 Explain the factors which predisposes to digitalis toxicity. **2M**

1. A 75-year-old woman with hypertension is being treated with a thiazide. Her blood pressure responds and reads at 120/76 mm Hg. After several months on the medication, she complains of being tired and weak. An analysis of the blood indicates low values for which of the following ? **1M**

 A. Calcium. B. Uric acid. C. Potassium. D. Sodium.

 Why thiazide diuretics are not effective in patients with inadequate kidney function (creatinine clearance, <50 mL/min)? **1M**

1. Match the Following with suitable, Indication, Action or Therapeutic Use or class of drug.

 **[1 M for each= 14M]**

* 1. Tiazide diuretics Glaucoma
	2. Loop Diuretics Diabetic Nephropathy
	3. Ethacrynic acid Increased Na retention
	4. Chlorthalidone Alpha 1 blocker
	5. Furosemide Verapamil
	6. Enalapril Amlodipine
	7. Propranolol Deafness
	8. Losartan Ototoxicity
	9. Diphenylalkylamines Acute Pulmonary Edema
	10. Benzothiazepines Hyperkalemia
	11. Dihydropyridines Hypertensive Pregnant Patient
	12. Prazocin Hypercalcemia
	13. Methyl Dopa Diltiazem
	14. Acetazolamide Magnesuria

1. A 66-year-old man had a myocardial infarct. Which one of the following would be appropriate prophylactic antiarrhythmic therapy? **1M**

 A. Lidocaine. B. Metoprolol. C. Procainamide. D. Quinidine. E. Verapamil.

1. Explain the Renin Angiotensin System in detail [with all details] **5M**