

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI

Pharmacology-II (PHA F341)

Mid Semester Examination (CLOSED BOOK)

Date: 14/03/2022

Duration: 90 Minutes

Weightage: 30%

Instructions:

- ✓ Write the correct and precise answer. Marks will only be given to correct and well-explained answer and not to partial answers.
- ✓ Highlight the key words. No spelling mistakes.
- ✓ Write in clear and legible handwriting.
- ✓ Do not write short forms.
- ✓ Answer the questions in the same sequence.
- ✓ Write the each question on a separate sheet.

Q1. Justify the following statement **in detail**.

“Essential hypertensive patient treated with Candesartan regresses structural and functional abnormalities of the vascular wall.” **[10M]**

Q2. AT4 receptor, which is distributed in heart, lung, kidney, brain, and liver, binds Ang IV but not losartan or PD123319. If the diabetic hypertensive rats were treated with PD123319, **explain the expected end pharmacological effects with detailed signal transduction in these animals.** **[6M]**

Q3. Explain the following drug-drug interaction in detail.

[1M for each=5M]

- a) Gemfibrozil and Warfarin.
- b) Fenofibrate and Tolbutamide.
- c) Indomethacin and Ethacrynic acid.
- d) Quinidine and Digoxin.
- e) Torsemide and Digoxin.

Q4. Write the answer for the below questions in detail.

[1M for each=9M]

- a) Why Hydrochlorothiazide is not effective in patients with creatinine clearance, <50 mL/min?
- b) Why Diltiazem is used in the treatment of Angina?
- c) Why Chlorthalidone can be useful in treating idiopathic hypercalciuria?
- d) Why Verapamil and Diltiazem are more effective against atrial than against ventricular arrhythmias?
- e) Why Spironolactone is particularly effective in clinical situations associated with secondary hyperaldosteronism?
- f) Why Hydrochlorothiazide is combined with Lisinopril?
- g) Why Sildenafil citrate is not prescribed along with organic nitrates?
- h) Why Clonidine is useful in the treatment of hypertension complicated by renal disease?
- i) Why Propranolol is contraindicated with Type I diabetic hypertensive patients?