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MBV-003-010412 Seat No. _____

M. Sc. (Sem. IV) (CBCS) Examination

April / May - 2018

Organo–Pharmaceutical Chemistry : C (OP) 404

(Advance Medicinal Chemistry)

(Old Course)

Faculty Code : 003

Subject Code : 010412

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All Questions are compulsory and carries equal 14 marks

(2) Draw suitable diagram / Scheme wherever necessary.

1 Answer any **seven** of the following ten questions : **14**

(a) Define substituent constant σ. Calculate σ for p–nitrobenzonic acid (NBA) & p–hydroxy benzoic acid (HBA). Dissociation constants are given below :

Acid	*BA*	*NBA*	*HBA*
Ka	6.25×10^{-5}	3.9×10^{-4}	2.8×10^{-8}

(b) Enlist the linkers used in combinatorial chemistry.

(c) Enlist the analytical method used for the characterization of combinatorial chemistry.

(d) Enlist Electronic descriptors used in QSAR along with symbols.

(e) Enlist the major Intellectual properties.

(f) Explain the term absorption of drug by drawing a suitable graph.

(g) Define polymorphism, pseudopolymorphism.

(h) Explain solvents and hydretes.

(i) Explain the term bitransformation.

(j) Explain protein binding of drugs.

2 Answer any **three** of the following : **14**

(a) Explain solid phase mix and split methods.

(b) Discuss Halo-aromatic Tag methods.

(c) Enlist the resign used for solid phase synthesis and explain any one.

(d) Give a brief account on Combinatorial Libraries.

3 Answer any **two** of the following : **14**

(a) Define Taff parameters Es. Explain the effect of size of the substituent R on Es. Calculate the Taff parameter Es. For Methyl Acetate, Methyl Carbonobromidate and Methyl Carbonocyanidate

Methyl Carbonobromidate	*Methyl Carbonobromidate*	*Methyl Carbonocyanidate*	*Methyl Acetate*
–1.24	–1.16	–0.51	–2.348

(b) Isonarcotic activity data in Tadpoles are given below. Establish the correlation between isonarcotic log $(1/C)$ activity with log (C).

Isonarcotic Activity in Tadpoles

Compound	**Log (I/C)**	**Log P**	**Compound**	**Log (I/C)**	**Lop**
CH_3OH	0.30	–1.27	$(CH_3)_2C(C_2H_5)OH$	1.20	0.59
C_2H_5OH	0.50	–0.75	$CH_3(CH_2)_3OH$	1.40	0.29
$(CH_3)_2CHOH$	0.90	–0.36	$(CH_3)_2CHCH_2OH$	1.40	0.16
$(CH_3)_3COH$	0.90	0.07	$CH_3(CH_2)_4OH$	1.60	0.81
$CH_3CH_2CH_2OH$	1.00	–0.23			

(c) Explain Hantch Analysis in detail.

4 Answer any **two** of the followings : **14**

(a) Explain with examples bitransformation involving phase-I and phase-II reactions.

(b) Mention in brief modified Noyswhitney equations.

(c) Define and explain in brief : Prodrugs and its merits.

5 Answer any **two** of the followings : **14**

(a) Write a short note on 'GI'

(b) What is patent infringement ? Write about the types of infringement.

(c) Give a brief account on Trademark and differentiate it from trade secrets.
