



JC-003-001648

Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

August – 2019

**IC - 603 : Pharmaceuticals - 2 & Fundamentals of
Chemical Engineering - 2**

Faculty Code : 003

Subject Code : 001648

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :**
- (1) All the questions are compulsory.
 - (2) Figures to the right indicate maximum marks.
 - (3) Draw labeled diagram wherever necessary.
 - (4) Assume suitable data.
 - (5) Question-1 carries 20 marks.
 - (6) Question-2 and 3 carry 25 marks each.

1 Answer the following questions : 20

- (1) Write general formula of Carbohydrate.
- (2) Biuret test is used for detection of protein. True/False?
- (3) Sugar residue is also known as _____.
- (4) Therapeutic index is ratio of LD₅₀ to _____.
- (5) Give full form of NSAID.
- (6) Analgesic types of drug are pain relieving drugs. True/False?
- (7) Enzymes are known as _____ catalyst.
- (8) Which enzyme is used for catabolism of lipid?
- (9) The cell wall of bacteria is made up of _____.
- (10) Oils and fats are glycerides of higher _____ acids.
- (11) Give full form of NIHL.
- (12) A temperature at which material will self-ignite is known as _____ temperature.

- (13) Give full form of PPE.
- (14) The operating cost of standard equipment is _____.
- (15) What is malleability of material?
- (16) CSTR is stands for what?
- (17) The device which is used to increase strength of signal is known as _____.
- (18) Input is the incoming signal to a controlled system. True/False?
- (19) Lag means delay in _____.
- (20) Which control system is independent on output signal?

2 (A) Answer any three : 6

- (1) Define amino acids with example.
- (2) Enlist factors affecting activity of enzyme.
- (3) Give synthesis of Sulphacetamide.
- (4) Define : (i) Hardness (ii) Elasticity.
- (5) Define : (i) Lost time injury (ii) Oxidisability.
- (6) What is dead time?

(B) Answer any three : 9

- (1) What is carbohydrate? Enlist classification of it.
- (2) Write a short note on volatile oils.
- (3) Give synthesis of Paracetamol.
- (4) Discuss any two mechanical properties of metal.
- (5) Explain transportation lag with neat diagram.
- (6) Explain resistance with diagram.

(C) Answer any two : 10

- (1) Give synthesis of : (i) Aspirin (ii) Methyl dopa
- (2) Explain production of lactic acid via fermentation process.
- (3) Discuss control valve with neat diagram.
- (4) Give difference between open loop and close loop control system.
- (5) Explain time schedule used in chemical industries.

- 3 (A) Answer any **three** : 6
- (1) Define amino acids and enlist various types of protein.
 - (2) Write Fehling test useful to identify carbohydrates.
 - (3) Give synthesis of Mefenamic acid.
 - (4) Give any four differences between standard and specially designed equipment.
 - (5) Define : (a) Hunting (b) Measured variable.
 - (6) Write uses of controller.
- (B) Answer any **three** : 9
- (1) Enlist various applications of industrial microbiology.
 - (2) Write a short note on oils, fats and waxes.
 - (3) Give synthesis of Propranolol.
 - (4) Discuss capacitance with diagram.
 - (5) Write a short note on operational deviation.
 - (6) Explain colour codes for safety.
- (C) Answer any **two** : 10
- (1) Give the synthesis of : (i) Sulphathiazole
(ii) Sulphaguanidine.
 - (2) Give the synthesis of : (i) Phenobarbital
(ii) Butalbital.
 - (3) Explain production of penicillin with neat diagram.
 - (4) Discuss various components of control system.
 - (5) Explain dangerous properties of chemicals in detail.
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