BBH-003-001648 Seat No. _____

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

July – 2021

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 & 3 carry 25 marks each.

1 Answer the following questions : **20**

(1) Vinegar is a fermentation product generated by micro-organism. True/False?
(2) Biuret test is used for detection of _____.
(3) Give molecular formula of sugar.
(4) _____ is ratio of LD_{50} to ED_{50}.
(5) NSAID is stands for what?
(6) Viruses are types of microorganism. True/False?
(7) Biocatalyst is also known as _____.
(8) _____ enzyme is used for catabolism of lipid.
(9) The cell wall of bacteria is made up of _____.
(10) pH, temperature and gaseous requirement are affecting growth of _____.
(11) Give full form of NIHL.
(12) A temperature at which material will self-ignite is known as _____ temperature.
(13) Transfer function is denoted by G(s). True/False?

(14) The operating cost of standard equipment is _____.

(15) What is ductility of material?

(16) Give full form of CSTR.

(17) The device which is used to increase strength of signal is known as _____.

(18) Give full form of PPE.

(19) Transportation lag means delay in _____.

(20) The difference between set point & measured variable is known as Error. True/False?

2 (A) Answer any **Three** : **6**

(1) Define : (i) Phytoconstituents (i) Tannin

(2) Explain structure of bacteria in brief.

(3) Enlist factors affecting activity of enzyme.

(4) Define : (i) Lost time injury (ii) Oxidisability

(5) Explain the term block diagram.

(6) Enlist three conditions for undertaking project development.

(B) Answer any **Three** : **9**

(1) Discuss classification of sulpha drugs in brief.

(2) Give synthesis of: Pentobarbital

(3) Write a short note on volatile oils.

(4) Write a short note on laboratory safety.

(5) Explain resistance with diagram.

(6) Discuss any two mechanical properties of metal.

(C) Answer any **Two** : **10**

(1) Discuss lactic acid production via fermentation process.

(2) Explain with neat diagram closed loop control system.

(3) Explain time schedule used in chemical industries.

(4) Give synthesis of (i) Aspirin (ii) Methyl dopa

(5) Discuss control valve with neat diagram.

3 (A) Answer any **Three** : **6**

(1) Describe conditions affecting enzyme activity (any two)

(2) Define : (i) Fermentation (ii) Glycoside

(3) Define amino acids and enlist various types of protein.

(4) Define : (a) Hunting (b) Measured variable

(5) Write uses of controller.

(6) Enlist various classes of fire extinguishers.

(B) Answer any **Three** : **9**

(1) Give synthesis of Sulphaguanldine

(2) Give synthesis of Ibuprofen

(3) Write synthesis of Propranolol.

(4) What are components of an automatic control system?

(5) What is meant by : (a) Lost time injury (b) Frequency rate (c) Severity rate

(6) Explain colour codes for safety.

(C) Answer any **Two** : **10**

(1) Explain penicillin V production in detail.

(2) Write a detailed note on carbohydrates in detail.

(3) Give the synthesis of (i) Sulphathiazole (ii) Sulphaguanidine

(4) Explain dangerous properties of chemicals in detail.

(5) Write a detaited note on various sources of information for development of a process.
