



**FACULTY: Basic and Applied Sciences**

**DEPARTMENT: Physical and Chemical Sciences**  
**FIRST SEMESTER EXAMINATIONS**  
**2020/2021 ACADEMIC SESSION**

**COURSE CODE: BCH 405**  
**COURSE TITLE: TOXICOLOGY**  
**DURATION: 120 MINS**

**HOD's SIGNATURE**

**TOTAL MARKS: 60**

**Matriculation Number: \_\_\_\_\_**

**INSTRUCTIONS:**

1. Write your matriculation number in the space provided above and also on the cover page of the exam booklet.
2. This question paper consists of 1 page.
3. Answer all questions in the exam booklet provided.
4. More marks are awarded for problem solving method used to solving problems than for the final numerical answer.
5. Marks will be deducted for untidy work.
6. At the end of this examination, place the question paper inside the exam booklet.
7. Attempt any three (3) of the five (5) questions

- 1a) Explain the effect of dose and time on the toxicity of substance using specific examples. Explain three other factors affecting the toxicity of a substance. 12 marks
- 1b) What do you understand by acute and chronic toxicity? Give two examples each of acute toxin and chronic toxin. 8 marks
- 2a) Define phase 1 and phase 11 reactions 5 marks
- 2b) Using equations write short notes on the following phase 2 reactions. 15 marks
- i) Glutathione conjugation    ii) Glucuronide Conjugation    iii) Acetylation.
- 3a) Mention any three (3) factors that affects the efficiency of passive diffusion/ elimination of toxicants in complex organisms 6 marks
- 3b) Briefly explain the routes of toxicant elimination 10 marks
- 3c) What is entero-hepatic elimination , explain with schematic diagrams 4 marks
- 4a) Name and explain briefly the stages of carcinogenesis 8 marks
- 4b) Using Benzo (a) pyrene as an example, explain chemical influence in carcinogenesis 12 marks
- 5a) What are endogenous and exogenous natural toxins 5 marks
- 5b) Mention two (2) mechanism of actions of pesticides and give examples 5 marks
- 5c) Explain the role in circulation of any two (2) of the listed toxins
- i) Endogenous toxin = cyanide OR aflatoxin (pick 1) 5 marks
- ii) Preservatives 5 marks
- iii) Fried foods 5 marks
- iv) Pesticides 5 marks