

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION (TAKE HOME) SEMESTER I SESSION 2020/2021

COURSE NAME

PHYTOMEDICINE

COURSE CODE

BWJ 41103

PROGRAMME CODE

BWW

EXAMINATION DATE

JANUARY / FEBRUARY 2021

DURATION

3 HOURS

INSTRUCTIONS

ANSWER ALL QUESTIONS

OPEN BOOK EXAMINATION

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

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PLOF MARYN DR. ALCHER CUBWN 1 HAATOC LO JUBBLEN Teknolf J. der Sumter Schrüger o euro Suins Gunean das Teknologi De Newcoln (and Nuinter)

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Q1 (a) The phytomedicine market has grown at an expressive rate worldwide since 1990's (from 5% to 18% a year). Discuss the factors that have contributed to the growth of this worldwide phytotherapeutic market.

(5 marks)

(b) Herbal medicine has many differences as compared to normal drugs. Describe the characteristics of standardized herbal product.

(10 marks)

(c) Pre-clinical studies and clinical trials are often conducted for the discovery of new drugs from natural product. Describe the methodology or activity in the pre-clinical trial study.

(10 marks)

- Q2 (a) List and discuss FIVE (5) important components in stardardization of herbal product.
 (10 marks)
 - (b) Ginseng and St. John's Wort have been shown to have a positive effects towards depression. Analyse the mechanism on how both plants work to treat depression.

 (15 marks)
- Q3 (a) Gout is a type of arthritis that causes painful inflammation in one or more joints.
 - (i) Using a flowchart, simplify the catabolism of purine that causes the incidence of gout.

(10 marks)

(ii) List FIVE (5) plants that can be considered as having potent anti-gout potential.

(5 marks)

(iii) Propose an *in vitro* and *in vivo* study in order to evaluate the efficiency of herbal product as anti-gout agent.

(10 marks)



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Q4 (a) Herbal medicine is still considered as complementary and alternative treatment for diseases. Using your knowledge in herbal medicine, demonstrate what can be done to mainstreaming herbal medicine for human population.

(10 marks)

- (b) Many Malaysian herbs have been used traditionally to treat malaria.
 - (i) List SIX (6) plants that have been shown scientifically to display potent antimalaria potential.

(6 marks)

(ii) From your answer in Q4(b)(i), highlight the major phytochemicals which might contribute to the anti-malaria effects.

(3 marks)

(iii) From your answer in Q4(b)(ii), explain the mechanism of action on how each phytochemical can act as an anti-malaria agent.

(6 marks)

- END OF QUESTIONS -

