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 பேராதனைப் பல்கலைக்கழகம்  
 UNIVERSITY OF PERADENIYA



දුරස්ථ හා අඛණ්ඩ අධ්‍යාපන කේන්ද්‍රය  
 தொடர் தொலைக் கல்வி நிலையம்  
 CENTRE FOR DISTANCE AND CONTINUING EDUCATION

දෙවන වසර ශාස්ත්‍රවේදී උසාධි පරීක්ෂණය  
 (බාහිර-නව නිර්දේශය) - 2020 මාර්තු  
 பொது கலைமணிப் பரீட்சை (வெளிவாரி) - 2019 டிசம்பர்  
 2<sup>nd</sup> YEAR 200 LEVEL EXAMINATION IN BACHELOR OF ARTS  
 (EXTERNAL - NEW SYLLABUS) - MARCH 2020

SUPE 212 -Science for Life

Index Number
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This question paper has 2 parts.  
 Answer all questions of **PART A** and 03 questions from **PART B**.  
 Time allowed: Three (03) hours

**PART-A**

*(Answer all questions of this part in the same question paper)*

- (i) The length of the adjacent sides of a right angle triangular-shape flower bed is 8 m and 6 m respectively. What is the length of the hypotenuse? Also find the total area of the flower bed.

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- (ii) Write down the Newton's First Law of motion. Give two examples that obey the law.

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(iii) Give two advantages and two disadvantages of friction in daily life.

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(iv) The speed of sound in air is  $340 \text{ m s}^{-1}$ . What is the wavelength of a sound wave of frequency 100 Hz that travels in air?

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(v) How a lightning is created in a thunder?

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(vi) Arrange the following electromagnetic radiations in the order of increasing wavelengths. Visible light, Ultra-violet (UV), radio wave, Infra-red (IR) and X-rays.

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(vii) A 12 V car battery is used to light a bulb of power 24 W. Find the current taken from the battery and the resistance of the bulb. Neglect other resistances.

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(viii) What is the main difference between sea salt and table salt?

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(ix) The pH value of a certain aqueous solution is 5. Is the solution basic or acidic? What should be the pH value of pure water?

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(x) What are the main ingredients needed for photo synthesis in leaves of trees?

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[4×10 = 40 marks]

**PART B**

(Answer 03 questions only)

01. Define refractive index of a transparent medium and the total internal reflection. Briefly explain the formation of rainbow and its feature. [20 marks]
02. Describe the methods of transfer of heat energy from one place to another. Using the principles of physics, explain the formation of sea breeze and land breeze. [20 marks]
03. Explain the action of baking soda and yeast in the process of rising flour. [20 marks]
04. Name five vitamins and explain their action for keeping health of human body. Give two natural foods that we consume, containing each of the vitamins. [20 marks]

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