



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2021/2022**

COURSE NAME : ELECTRICAL POWER SUPPLY SYSTEM

COURSE CODE : BBV 20103

PROGRAMME CODE : BBE

EXAMINATION DATE : JANUARY / FEBRUARY 2022

DURATION : 3 HOURS

INSTRUCTION : 1. ANSWERS ALL QUESTIONS.
2. THIS FINAL EXAMINATION IS A (ONLINE ASSESSMENT AND CONDUCTED VIA (CLOSE BOOK)

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

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- S1** (a) (i) Define National Grid System in Malaysia. (2 marks)
- (ii) Explain 2 type of renewable energy sources. (8 marks)
- (b) The electricity supply system in Malaysia has undergone rapid changes. Based on the statement explain briefly about the:
- (i) Improvement process in electricity generation
(ii) Success that has been achieved
(iii) Suggestions for improvement
(iv) Differences exist
(v) The achievement achieved (15 marks)
- S2** (a) (i) Sketch schematic diagram of Short-line phase diagram on load with lagging power factor. (5 marks)
- (ii) Explain clearly the term 'regulation' of medium line (5 marks)
- (b) Short-line transmission systems have helped the industry and public housing acquire a certain amount of electricity
- (i) Analysed **three (3)** advantages and **three (3)** disadvantages of tension insulation. (6 marks)
- (ii) Explain the principle of suspension insulator. (9 marks)

- S3 (a) (i) Draw schematic diagram of substation main circuit 33/11k. (5 marks)
- (ii) With the aid of block diagram, explain briefly energy distribution to a factory. (10 marks)
- (b) A good distribution system will be able to have a deep impact on electricity customers. Short-line transmission systems have helped the industry and public housing acquire a certain amount of electricity.
- (i) With the aid of diagram differentiate topology network power distribution system of radial distribution arrangement, parallel and ring for public housing. Justify which topology network suitable for public housing (11 marks)
- (ii) Analysed **two (2)** Advantages and **two (2)** disadvantages between ring distribution arrangement and radial distribution arrangement. (4 marks)
- S4 Important components in a power supply system is the switchboard. Describe operating system of device below in the system of switch board.
- (i) Transformer current
- (ii) Protection devices – Moulded Case Circuit Breaker (MCCB)
- (iii) Protection devices high voltage – Air Circuit Breaker (ACB)
- (iv) Protection devices high voltage – Oil Circuit Breaker (OCB)
- (v) Earth Fault Relay
- (25 marks)

- END OF QUESTIONS -

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