



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2015/2016**

COURSE NAME : CONSTRUCTION ECONOMICS
COURSE CODE : BPD 42802
PROGRAMME : 4 BPC
EXAMINATION DATE : DECEMBER 2015/JANUARY 2016
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

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

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Q1 Following is construction equipment information:

- Initial cost of acquisition = RM65,000,000
- Cost of tyre sets RM3,500,000 to be replaced after every 3000 hours of operation.
- Cost of major overhaul and repairs RM 8,000,000 to be carried out after every 4500 hours of operation.
- Cost of fuel, lubricants and minor repairs and maintenance RM1,100 per hour
- Estimated Life of machine = 13500 hours of operation.
- Estimated salvage value = 15 % of initial cost.

Analyse usage of equipment with 1,500 hours per year if Minimum Acceptable Rate of Return (MARR) is 20 % per year estimate minimum hourly rental charges for equipment. (15 marks)

Q2 Your company has just won a contract to construct a government office building. The project will take one year and it requires an initial investment of RM10 million and RM5 million in a year later. The government will pay you RM20 million upon completion. Suppose the cash flows and their times of payment are certain, and the risk-free interest rate is 10%.

(a) Calculate Net Present Value (NPV). (5 marks)

(b) Calculate Internal Rates of Return (IRR). (10 marks)

Q3 Project feasibility analysis is a multi-step for construction planning phase. As the analysis progresses, the developer will gradually acquire more information that could help determine whether or not to proceed further.

(a) Outline **FOUR (4)** activities in feasibility analysis. (20 marks)

(b) Explain **ONE (1)** most important activity from your answer in **Q3(a)**. (5 marks)

Q4 Property valuation is the process of developing an opinion of value for real property (usually market value). Real estate transactions often require appraisals because they occur infrequently and every property is unique.

Compare the statement with **FOUR (4)** cores of the value theory. (20 marks)

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

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- Q5** A project manager for commercial building project is trying to value the same building based upon “comparable properties” sold in recent years. There were six property sales of comparable size in the surrounding area (as shown in Table Q3).

Table Q3: Comparable Properties Data

| Property | Sale Price (RM) | Size (Sq. Ft) | Gross Rent (RM) |
|----------|-----------------|---------------|-----------------|
| A1 | 30,000,000 | 500,000 | 6,000,000 |
| A2 | 28,000,000 | 525,000 | 5,750,000 |
| A3 | 32,000,000 | 550,000 | 6,100,000 |
| A4 | 35,000,000 | 500,000 | 6,500,000 |
| A5 | 25,000,000 | 450,000 | 5,000,000 |
| A6 | 22,000,000 | 400,000 | 4,000,000 |

- (a) Determine the value of the building based upon price/square foot. (10 marks)
- (b) Determine the value of the building based upon price/gross rent. (10 marks)
- (c) State **FIVE (5)** assumptions that used in valuing a building based upon comparable commercial buildings. (5 marks)

-END OF QUESTIONS-

DOKUMEN INI MERUPAKAN SALINAN...
 DAN BUKAN MERUPAKAN...
 DOKUMEN ASLI.