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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
(TAKE HOME)  
SEMESTER II  
SESSION 2019/2020**

COURSE NAME : TECHNOLOGY MANAGEMENT  
COURSE CODE : BPA 21703  
PROGRAMME CODE : BPA  
EXAMINATION DATE : JULY 2020  
DURATION : 24 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS  
**OPEN BOOK EXAMINATION**

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

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**TERBUKA**

**Q1** Technology transfer process is certainly not something new. Technology transfer was already happening during the Neolithic era when human started to develop technology. History has shown throughout the history that the technology transfer has occurred between civilisations and countries across the world. It is evident in the past that the Islamic civilisation in the Arabic world played a critical role regarding technology transfer from the East to West during the early century. In this particular of time, the Arabs are leading regarding scientific knowledge and therefore provide the technology and knowledge transfer to the West. The American industrial revolution in the 19th century has resulted from a technology transfer of English textile expertise during the 18th century. The Japanese economic revolution after World War 2 has also resulted from a technology and knowledge transfer in the area of quality management from Edwards Deming of the United States to Japan. Toyota Corporation adopted this technology transfer and went to become a giant global automotive car maker until today. In Malaysia, technology transfer has been used as a mean to develop the country from a developing country status to a developed nation. Technology transfer was used as leverage for Malaysia to participate in high value added activities. Among national projects that leverage technology transfer was the development of the automotive industry in Malaysia. The automotive industry in Malaysia has been jump-start through the technology transfer from Mitsubishi Motor Corporation (MMC) to Perusahaan Otomobil Nasional Sdn. Bhd. (PROTON) back in the early 1980s through government's initiatives. The technology transfer from MMC to PROTON was used as leverage to develop the heavy industries in Malaysia. However, in a certain sector such as the rail industry in Malaysia, the local industry are still very much dependent on foreign Original Equipment Manufacturers with very limited key technology has been absorbed and transferred to the local rail industry. This occurrence is due to the lack of proper monitoring of technology transfer process during the development of the rail project.

*(Source: Hamdan, A.R., Fathi, M.S. and Mohamed, Z. (2018). Evolution of Malaysia's Technology Transfer Model Facilitated by National Policies. International Journal of Engineering & Technology, 7 (29) 196-202)*

Based on the above scenario, answer the following questions:

- (a) Define technology transfer. (3 marks)
- (b) Examine **TWO (2)** challenges faced in technology transfer using appropriate examples related to local rail industry. (10 marks)
- (c) Apply **TWO (2)** channels of technology flow in technology transfer using appropriate examples. (12 marks)

- Q2** To sustain in today's ever-changing and competitive landscape, firms must work within and outside of their organizations' boundaries. Open innovation (OI) strategies such as external technology acquisition (ETA), and external technology exploitation (ETE), can effectively improve the innovation performance of the organizations. Technologies like social media can help organizations to scout for appropriate technology, and source for ideas and knowledge from external sources to support their innovations. Moreover, digitalization can hasten business operations and enhance the innovation process of the firm.

*(Source: Tajudeen, F.P., Jaafar, N.I., and Sulaiman, A. (2019). External Technology Acquisition and External Technology Exploitation. The Difference of Open Innovation Effects. J. Open Innov. Technol. Mark. Complex. 5(97))*

Based on the above scenario, answer the following questions:

- (a) Define technology acquisition (3 marks)
- (b) Elaborate **TWO (2)** methods of technology acquisition using social media that can help organizations acquire technology. (10 marks)
- (c) Compare and contrast **THREE (3)** of the technology development phases which can improve innovation performance using appropriate examples. (12 marks)

- END OF QUESTIONS -