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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2013/2014**

COURSE NAME : TECHNOLOGY TRANSFER
SUBJECT CODE : BPB 42703
COURSE : 4 BPA
EXAMINATION DATE : DECEMBER 2013/JANUARY 2014
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER **ALL** QUESTIONS

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

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- Q1** AMR Intellisys, a company under SIRIM Incubator of Malaysia, has developed an electronically-based fuel-saving device called Pro-S. This technology conserves energy, permits faster acceleration, increases the range of speed, and extends the battery life of automated vehicles. Through its ability to limit the exertion and absorption of energy, Pro-S is both more efficient and more environmentally friendly than alternative fuel-consuming products. Depending on the type of vehicle, Pro-S has been shown to increase fuel efficiencies between 15 and 30 percent when compared to other leading brands. Through the use of the SS-GATE platform, this technology is in the process of being transferred to Vietnam, where initial implementation tests have been successful. A company known as Vietnam Technology Solutions, JSC, plans to commercialize the Pro-S technology on a large scale, and it is hoped that this effort will help reduce fuel consumption and improve air quality in Vietnam. Should the Pro-S technology prove successful in the aforementioned goals, it is envisioned that further Pro-S pilot tests will be transferred to other countries within the Asian region to combat air pollution.

Analyze the stages in the technology transfer applying the above case study.

(25 marks)

- Q2** On 8 July 2011, a graduation ceremony for MARDI Technology Incubator (Jabi Rice Mill Sdn. Bhd.) was held. The company is the only incubatee that has completed the incubator programme and successfully developed a pilot factory for processing of nutritious breakfast cereal and snacks based on brown rice which uses MARDI extrusion technology. The graduation ceremony and presentation of graduation certificates were undertaken by YH. Dato' Dr. Hj. Masri b. Mohammad, Deputy Director General (R & D) at the Jabi Rice pilot factory in Alor Star, Kedah. The pilot factory producing pre-commercial production of 500 kg per day was set up to meet the standard aspects of the Hazard Analysis Critical Control Point (HACCP). At present, the company is undertaking efforts to explore opportunities for marketing and negotiations are underway to market breakfast cereals and snack brands such as Crunchy Krunch, Krispy Star and cheese, curry and chicken flavoured J'Rice Poppers in hypermarkets such as Tesco, Giant, Jaya Jusco and Mydin. It is hoped that the success of Jabi Rice Mill Sdn. Bhd. could set an example to other incubatees who are or will participate in the MARDI Technology Incubator programme.

The above success story of MARDI is one of the example in R&D Adaptation and Technological Capability Improvement.

Summarize **FOUR (4)** R&D units related to technology transfer.

(20 marks)

- Q3** ‘Technological effort is vital to developing countries, even though it is clear that they are not "innovating" at the frontier. They import new technology, equipment, patents and so on from more advanced countries, but they have to learn to use these inputs effectively. Using new technologies is not an automatic or simple process. It entails the conscious building of "technological capabilities", a mixture of information, skills, interactions and routines that firms need in order to handle the tacit elements of technology. Received theory assumes that technology mastery and diffusion in developing countries are relatively easy, that knowledge is not tacit, and that the markets involved are relatively efficient. Thus, developing countries simply import and apply existing technologies, picking them in line with their factor prices. Once selected, technologies can be used effectively from the start (apart from minor learning by-doing). In this setting, free international trade and investment flows maximize the inflow of beneficial new technology.’

Source: United Nations Report: Investment and Technology Policies for Competitiveness, Review of successful country experiences; New York and Geneva, 2003.

Discuss **FIVE (5)** factors that inhibit successful technology transfer based on the above report.

(30 marks)

- Q4** Choosing the right technology by using a systematic evaluation framework involves simultaneously optimizing the static and dynamic elements of choice.

Describe **FIVE (5)** elements of choice related to technology assessment using appropriate examples.

(25 marks)

-END OF QUESTION-