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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2018/2019**

**COURSE NAME : CONSTRUCTION ECONOMICS**  
**COURSE CODE : BPD 42802**  
**PROGRAMME CODE : BPC**  
**EXAMINATION DATE : DECEMBER 2018/ JANUARY 2019**  
**DURATION : 2 HOURS**  
**INSTRUCTION : ANSWER ALL QUESTIONS**

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

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**Q1** Malaysia’s decision to revert to the Sales and Service Tax (SST) from the Goods and Services Tax (GST). It will result in a higher disposable income due to relatively lower prices incur in most goods and services especially in construction industry. With the reintroduction of the SST to replace the GST, the state is confident in lowering overall housing prices.

*(The Star, 2018)*

Analyse the comparison of GST and SST implementation effects on house price.

(25 marks)

**Q2** A primary school is going to be built in Parit Raja. **Table Q2** shows two alternative proposals have been suggested as shown in.

**Table Q2: Alternative Proposals**

<b>Scheme A</b>	<b>(RM)</b>
Cost of building	200,000
Site cost	40,000
Annual running cost	6,000
Replacement cost at every 20 years	24,000
Replacement cost at every 30 years	32,000
<b>Scheme B</b>	<b>(RM)</b>
Cost of building	300,000
Site cost	3,000,000
Annual running cost	5,000
Replacement cost at every 20 years	30,000
Replacement cost at every 30 years	6,000

(a) Calculate Life Cycle Cost (LCC) for Scheme A and Scheme B proposals with the assumption of an equal life of 60 years, interest rate of 5% and Annual Sinking Fund (ASF) of 2.5%.

(20 marks)

(b) Justify which scheme should be accepted.

(5 marks)

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**Q3** A developer requests an advice on the usage value of construction equipment which he is considering to increase. Construction equipment information are as follows:

- 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.

(a) Calculate usage of equipment with 1,500 hours per year if Minimum Acceptable Rate of Return (MARR) is 20 % per year.

(20 marks)

(b) Estimate the minimum hourly rental charges for the equipment.

(5 marks)

**Q4** A project manager for terrace house project is required to value the same building based upon comparable properties sold in recent years to determine house price sale. **Table Q4** shows five property sales of terrace house of comparable size in the surrounding area.

**Table Q4: Comparable Properties Data**

House	Sale Price (RM)	Size (Sq. Ft)	Gross Rent (RM/month)
1	200,000	1,400	500
2	280,000	1,400	650
3	220,000	1,400	600
4	250,000	1,400	550
5	250,000	1,400	500

(a) State **FIVE (5)** assumptions that are used in valuing a building based upon comparable housing buildings.

(5 marks)

(b) Calculate the value of the building, based upon price/square foot.

(10 marks)

(c) Calculate the value of the building, based upon price/gross rent.

(10 marks)

**-END OF QUESTIONS-**

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