ANGKA GILIRAN:……..

UNIVERSITI SAINS MALAYSIA

Second Semester Examination
2012/2013 Academic Session

June 2013

RLD 503 – Landscape Construction
(Pembinaan Landskap)

Duration: 3 hours
[*Masa: 3 jam*]

Please check that this examination paper consists of SEVEN pages of printed material before you begin the examination.

Answer **ALL** questions.

Please submit this question paper with your answer paper.

1. A deck was constructed with planed merbau planks measuring **1 $^{6}/_{8}$“** x **7 $^{6}/_{8}$** ” x **10** feet long placed at **$^{1}/_{4}$ “** gap. Assuming a man weigh 230 lbs. may stand on a single plank. What is the maximum joist spacing allowable for the deck.

(10 marks)

2. With reference to question 1, if the span for the all the planks is 16 inches and all the lumbers used are merbau , determine the size and span for the joists and beams.

(Use the WWPA'S Western Lumber Span Computer slide rule for this purpose with live load 40 psf and total load 50 psf).

(10 marks)

3. Solve the vertical alignment of the section of a road shown. Please refer to Apppendix. A.

(20 marks)

4. Proposed a grading plan for the following development proposal base on the following criteria: Please refer to appendix B.

   (a) Lawn areas - minimum 2 %, maximum 5 % slope, no catch basins.
   (b) Road - 1 % to 7 % CL gradient, 6 inch. Curb and crown
   (c) Parking lot - 2 % to 4% fall line slope, 6 inch curb
   (d) Entry drives - 6 inch curb, no crown
   (e) Walkways (conc.) - 1 % to 2 % cross-slope
   (f) Building - FFE = PE + 1.5 ft.
   (g) Cut and Fill slopes - maximum 3:1
   (h) Protective swales - FL minimum 2 %, maximum 5%
   (i) Water must flow away from building on all sides
   (j) Proposed all the spot elevations (+)

(30 marks)

…3/-

5. Using contour plan method to estimate the volume of cut and volume of fill in the grading plan shown below. Use the planimeter readings (in square inches) that are shown on the plan. Round up your answers to the next cubic yard. Color areas of cut in red and areas of fill in blue. Please refer to appendix C.

(20 marks)

TOTAL CUT = _____ CU. YDS.

TOTAL FILL= _____ CU. YDS

6. Using the grid method, compute the amount of cut to be excavated for the municipal swimming pool shown below. Note : the larger portion is the shallow end and the smaller portion is the deep end. Please refer to appendix D.

(10 marks)

TOTAL CUT = _____ CU. YDS.

2. Vertical Alignment of A Sag Curve
Scale X - Axis 1" = 60' - 0"
Y- AXIS 1" = 6" - 0"
Vertical Curve Length = 500 feet
Station point at every 50 feet
BVC elevation = 131.67 feet