KOLEJ UNIVERSITI TUNKU ABDUL RAHMAN FACULTY OF COMPUTING AND INFORMATION TECHNOLOGY

ACADEMIC YEAR 2020/2021

Assignment 1

MATHEMATICS AAMS3163

ALGEBRA

STUDENT'S DECLARATION OF ORIGINALITY

By submitting this online assessment, I declare that this submitted work is free from all forms of plagiarism and for all intents and purposes is my own properly derived work. I understand that I have to bear the consequences if I fail to do so.

Course Code: AAMS3163

Course Title: ALGEBRA

Signature: Water

Name of Student: TAN KANG HONG

Student ID: 2002959

Date: 13/3/2021

| Q1 | |
|-------|--|
| Q2 | |
| Q3 | |
| Q4 | |
| Q5 | |
| Total | |

| | <u> </u> | |
|----------|---|---|
| 01. (0) | PQ : PO + OQ | $\overrightarrow{PR} : \overrightarrow{PO} + \overrightarrow{OR}$ $: -\overrightarrow{OP} + \overrightarrow{OR}$ |
| | = -07 + 00 | |
| | ·-(1+21+3k)+ | (+ <u>1</u> , <u>1</u> , -2) |
| | 2 -1 -21 -3K +41 | -4k +2k |
| | : 3ŗ-ŗ-Ŗ | 4 |
| | ∴ 3 <u>1</u> - <u>1</u> - <u>1</u> | =(3,-1,-1) ,: 42 (0,0) |
| Q1. U) | RQ · PR : (3)(0) + (-1)(0) + (- | (-1)(-4) |
| | : 4 | |
| | 11 [32 + (-1)2 + (-1) | 1°) 5 11 × 51 × 11 × 15 × 11 × |
| | : 111 | (0, 21.4) 80+ (21+ 24+ 4 |
| | 11 PR 11 = (02+02+(-4)2 | 0: 10:11 |
| | : 4 Cose : Touling | (A. 12. 6) (A. 1. 42. 1. 43. 40. 40. 40. 40. 40. 40. 40. 40. 40. 40 |
| | GOS & FITHLINA | COSQ : PR QUIEZ ON (2.4) 2.4 (1.4) |
| | | [元] [元] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| | 1 | I will trivial. |
| | | (080 : 4 nextex 20+ par v4 |
| April 1 | - 13-13-10. 0.82-10. | (080 = 4 (Ji)(4) (182-1821) X4 |
| Sign | - 13-13-10. 0.82-10. | (080 = 4 (11)(4) |
| Sep. | - 13-13-10. 0.82-10. | (080 = 4 (Ji)(4) (182-1821) X4 |
| Sec. 1 | 923-13-00 0:82-10-0:30-0:30-0:30-0:30-0:30-0:30-0:30-0 | (11)(4) (11)(4) (080 : 17 0 : 72.45 degree : 40:72.45 degree |
| Qt- Ct- | 923-13-00 0:82-10-0:30-0:30-0:30-0:30-0:30-0:30-0:30-0 | (080 = 4 (11)(4) |
| (al- (c) | 923-13-00 0:82-10-0:30-0:30-0:30-0:30-0:30-0:30-0:30-0 | (11)(4) (11)(4) (080 : 17 0 : 72.45 degree : 40:72.45 degree |
| | PG × PR : ((-1)(-4) - | (080 : 4 (Ji) (4) 0080 : 11 0 : 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((3)(0) - (4)(-1)(0)) k |
| | PB × PR : ((-1)(-4) - | (080 : 4 (Ji) (4) 0080 : 11 0 : 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((3)(0) - (4)(-1)(0)) k |
| | PG × PR : ((-1)(-4) - | (1)(4) (1)(4) (1)(50): $\frac{1}{1}$ (1)(4) (1)(50): $\frac{1}{1}$ (1)(50): $\frac{1}{1}$ (1)(50): $\frac{1}{1}$ (1)(6)(1): $\frac{1}{1}$ (1)(1)(1): $\frac{1}{1}$ (1)(1)(1): $\frac{1}{1}$ (1)(1)(1): $\frac{1}{1}$ (1)(1)(1): $\frac{1}{1}$ |
| | PB × PR : ((-1)(-4) - | (080 : 4 (Ji) (4) 0080 : 17 0 : 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((-1)(0)) k |
| | PQ x PR : ((-1)(-4) - | (080 : 4 (Ji) (4) 0080 : 17 0 : 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((-1)(0)) k |
| | PQ x PR : ((-1)(-4) - | (1)(4) (080 : 1/1 (0:72.45 legree : 40:72.45 degree (-1)(0)); +((-1)(0)-(2)(-4)); +((-1)(0)-(4)(-1)(0))k |
| | PQ x PR : ((-1)(-4) - 1 | (050 : 4 (11)(4) 0: 72.45 degree : 40:72.45 degree ·(-1)(0)) i + ((-110) (3)(-41) i + ((3)(0) - (0(-1)(0)) k |
| | PQ × PR : ((-1)(-4) - 12 PQ × PR : 1 1 1 0 0 -4 : -1 -1 1 0 -4 - | (050 : 4 (11)(4) 0: 72.45 degree : 40:72.45 degree ·(-1)(0)) i + ((-110) (3)(-41) i + ((3)(0) - (0(-1)(0)) k |
| | PG × PR : ((-1)(-4) - 12 PQ × PR : 1 1 1 1 0 0 -4 : -1 -1 1 0 -4 = 41 +121 + 0k | (080 = 4 (Ji) (4) 0 = 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((3)(0) - (4(-1)(0)) k |
| | PR : ((-1)(-4) - | (080 = 4 (Ji) (4) 0 = 72.45 degree : 40:72.45 degree (-1)(0)) i + ((-1)(0) - (2)(-4) j + ((3)(0) - (4(-1)(0)) k |

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Date:

| MS 3163 | NO.: | Date: |
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| | | |
| Q1.1d) | PQ : U , PR : V | \$0 - \$1 = \$0 ml 12 |
| 4.67 | U= (3,-1,-1) V= (0,0,-4) | y = + 10+ 2 |
| (34 - | UXV=(4,12,0) , UXV=W | 12+ 1-121+ (95+ 12+ 1)++ |
| | 0 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 | 80+ 6+ 64+85-60+6-1 |
| | A: = W | 2-1-12: |
| | $=\frac{1}{2}(4^2+12^2+0^2)^{\frac{1}{2}}$ | 16 1- 8] : <u>4- 1- 18 </u> |
| | = 3 1160 | |
| | : 6.32 | (4-30-)-(500-)-(500)-(80-)50 - 20 (60-10) |
| | | 4: |
| 01.6 | Po = P(1,2,3) n = Po x PR | 11 97(11 : (3 + (-1) + (-1)) |
| | = 41 +12j +0k (4 | (٥, دا, |
| | N·RP :0 | 1 PKII • (0°+0°+(-4)°)* |
| | (4,12,0)·(x-1,y-2, Z-3) =0 | 4-5 |
| | 4(x-1)+12(y-2)+0(z-3) +0 | Frank Park |
| | 4x-4 +12y-24 +02 =0 | - Julius |
| | 4x+12y +oz -28=0 | 5 (885) |
| | | 4x+12y+0z-28=0, 0x+bg+cz+d-0 |
| | ÷ | a=4, b=12, C=0, d=-28 |
| | 12.45 12.45 | 7 7 .00 |
| Q1.49 | | |
| | -also-by-also) + i (belle - 1000-)) + | 11000-600): 27 - 12 12 |
| Q1.(f) | ket 2 - + | |
| | - P − 74 · · | |
| | The F2(4,23) | 13 1 2 5 8 8 6 (2.10) |
| | で、く1,2,37 | 1- 1- 8 |
| | ₹: <4-1, 1-2, 2-37 | + 0 0 |
| | = < 3, -1, -17 | 11- 8 |
| | ₹7(t): ⟨1,2,37+t⟨3,-1,-17 | 45 0 44 0 |
| | 7(t) = <1+3t, 24-t, 3-t> | Are Elegable |
| | , X-1434 | 10 - 14 c |
| | (0.4) 4) = 10.4 | , y=2-t , z=3-t |
| | 100 27 T 10 3 18 4 10 | * x |
| | | |
| A CONTRACTOR | | Page: |

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| | 1 | (r.r-,8).V : ml | . 21 | | | |
| Q4. | 4X+2y-3z-3=0 | A STATE OF THE STA | | | | |
| | 4X +2y -3Z-8 =0 | 4 - 1 V - 1 U + X T | | | | |
| -/ | | #T+ 8 1T- 1 = (-F) [+ (-F) E F) | | | | |
| | A=4, B=2, C=-3, D=-3, D==-8 | | | | | |
| | | 1 -12-52-14-3-11-3- | | | | |
| | 1-8-(-3) | : 71.7* | | | | |
| | \((4)^2 + (2)^2 + (-3)^2 | | | | | |
| | 5 Unit | | | | | |
| | 79 | + | | | | |
| | : 0.93 Unit | 0.93 Unit | | | | |
| | | • | | | | |
| | | (1- 4. M.; (1 | .60 | | | |
| | | (e, s, l) : eft | | | | |
| Q4. | 4x+2y -3z -3:0 | C THEAR | | | | |
| | 4x +2y -3z -8 =0 | (12 L) 12 | | | | |
| | 9 | N:3 (1:20 | | | | |
| | A=4, B=2, C=-3, D1:-3, D2:-8 | 2:1 | | | | |
| | $\frac{1-8-(-3)}{\sqrt{1-8-(-3)^2+(-3)^2}}$ | · 10 \$ 10 % | | | | |
| | d = [[k]²+(2)²+(3)² | | | | | |
| | 5 1014 | | | | | |
| | J29 Unit | | Cik. | | | |
| | =0.93 unit | (-, -, 2) : (1) | 85 / | | | |
| | | 1-5,13 5,0 | | | | |
| | | 0.3803 | | | | |
| | 0.93 Unit (1-,2.1) x = (1-,2.2) | | | | | |
| | Hrz}* | Kind Kond Day | - | | | |
| | 144 | COLUMN SAN | | | | |
| | Library and sup part | e/1X = (11)= | | | | |
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| NS3163 | NO.: | |
| Q5. | X+1:5-y=2+3 | (2.2.0.5) |
| | 5-y: Z+3 , X+1: Z+3 | la a silva |
| | Z+y = 2 -0 x-Z = 2 -0 | to be a series of the series |
| | 0:0 | |
| | | 4.510 × 1.62+ 1974 × 19 |
| 4-0 | Z+y : X-Z | |
| | x-y-27=0 | 27-0 |
| | : Line L is x-y- | 32.0 |
| | 1:00 | will res D |
| | kine to V y-2Z | 811 |
| | Line L = (1,-1,-2) | 15-1 - C |
| | n. P×a | , , . |
| | n: P × Q | |
| | 2 3 6 | |
| | аьс | |
| | | 16-3a)k (3(-66,-2(16a,26-3a) |
| | | (9C-6B)-2C16a, 20-0-0 |
| | V:n | , 2b-3a:-2 |
| | 3C-6b=1, $-2c+6a=-13C=1+6b -2c+6(\frac{3c+5}{9})=-1$ | 2b = -2+3a |
| | $3C = 1 + 6\left(\frac{-2 + 30}{2}\right) = -18C + 18C + 30 = -9$ | b= -2+30 |
| | | -D + - |
| | | b: -57 |
| | 3C = -5+9a | F: 37 |
| | a: 3c+5 | |
| | a: \$\frac{5}{4} | . 5 . 1 |
| | Δ= 9 | . a= 5 b= -17 C=0 |
| | (E → a) -1((1 + 2) | n = (\$\frac{5}{4}, -\frac{1}{27}, 0) |
| | (\frac{5}{4}, -\frac{1}{27}, 0) = k(1, -1, -2) | |
| | 5 - K - K = -17 | |
| | K=等 K= :. They (| are not perpendicular |
| | | |
| | | |
| | | |