KEMENTERIAN PENDIDIKAN MALAYSIA

POLITEKNIK MALAYSIA

JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	JONG JIA CHEE	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	05DDT18F1069	COURSEWORK ASSESSMENT		QUIZ 4	
PROGRAMME/ SECTION	DDT2B/ JTMK	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	10 MARKS
				CLO2	
				CLO3	
		TOTAL MARKS		10 MARKS	

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C2 [2 marks]

If a girl has 5 skirts, 8 shirts, and 6 pairs of shoes, how many outfits can she wear?

Question 2

CLO2, C2 [3 marks]

A college football team plays 10 games during the season. In how many ways can it end the season with 5 wins, 4 losses, and 1 tie?

Question 3

CLO2, C2 [5 marks]

If eight people eat dinner together, in how many different ways may 3 order chicken, 4 order steak and 1 order lobster?

Q1. $5 \times 8 \times 6 = 240$ outfits

(2)

Q2. ${}_{10}C_5 + {}_{10}C_4 + {}_{10}C_1 = 472$ ways

(1)

Q3. $\frac{8!}{3!4!1!} = 280$ ways

(5)

Subject: F2054 No: Date:

10

Question 1

~~$\frac{11!}{5!\,8!\,6!} = 2.8.1$~~ $5 \times 8 \times 6 = 240$

2

Question 2

$\frac{10!}{5!\,4!\,1!} = 1260$

3

Question 2

$\frac{8!}{3!\,4!\,1!} = 280$

3

NUR ATHIRAH SYAHIDA BINTI KHALIK 05DDT18F1110 DDT2B

F1110

10

Question 1

$^{3}P_{3} = 5 \times 8 \times 6$

$= 240$

2

Question 2

$^{10}P_{3} = \frac{10!}{5!\,4!\,1!}$

$= 1200$

3

Question 3

~~$\frac{(8+3-1)!}{3!\,(8-1)!}$~~

$^{8}P_{3} = \frac{8!}{3!\,4!\,1!}$

$= 280$

3

~~$\frac{10!}{3!\,7!}$~~

~~$F1120$~~

KEMENTERIAN PENDIDIKAN MALAYSIA — POLITEKNIK MALAYSIA		COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
		COURSEWORK ASSESSMENT		QUIZ 4	
		SESSION		DECEMBER 2018	
JABATAN MATEMATIK, SAINS DAN KOMPUTER		DURATION	15 MINS	CLO1	10 MARKS
NAME	NUR AFIQAH BT HABA			CLO2	
REGISTRATION NO.	05DDT18F1015			CLO3	
PROGRAMME/ SECTION	DDT2B	TOTAL MARKS		10 MARKS	

5

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C2 [2 marks]

If a girl has 5 skirts, 8 shirts, and 6 pairs of shoes, how many outfits can she wear?

Question 2

CLO2, C2 [3 marks]

A college football team plays 10 games during the season. In how many ways can it end the season with 5 wins, 4 losses, and 1 tie?

Question 3

CLO2, C2 [5 marks]

If eight people eat dinner together, in how many different ways may 3 order chicken, 4 order steak and 1 order lobster?

Question 1

5 skirts X 8 shirts X 6 pairs shoes

5 x 8 x 6 = 240 ways

2

Question 2

$\frac{10!}{3!\ 4!\ 1!}$

= 1260 ways

3

Question 3

$\frac{8!}{3!\ 4!\ 1!}$

$= {}_8P_3 = 336$

$= {}_8P_4 = 1680$

$= {}_8P_1 = 8$

= 2024 ways

X

KEMENTERIAN PENDIDIKAN MALAYSIA

POLITEKNIK MALAYSIA

JABATAN MATEMATIK, SAINS DAN KOMPUTER

NAME	Flavelynn Kalong	COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS	
REGISTRATION NO.	05DDT18F1067	COURSEWORK ASSESSMENT		QUIZ 4	
PROGRAMME/ SECTION	DDT2B	SESSION		DECEMBER 2018	
		DURATION	15 MINS	CLO1	10 MARKS
				CLO2	
				CLO3	
		TOTAL MARKS		10 MARKS	

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C2 [2 marks]

If a girl has 5 skirts, 8 shirts, and 6 pairs of shoes, how many outfits can she wear?

Question 2

CLO2, C2 [3 marks]

A college football team plays 10 games during the season. In how many ways can it end the season with 5 wins, 4 losses, and 1 tie?

Question 3

CLO2, C2 [5 marks]

If eight people eat dinner together, in how many different ways may 3 order chicken, 4 order steak and 1 order lobster?

Answer.

Question 1.

$5 \times 8 \times 6$

$= 240$ ways

2

Question 2.

$\frac{10!}{5!4!1!}$

$= 1260$ ways

3

Question 3.

$\frac{(n+r-1)!}{r!(n-1)!}$

$= \frac{(8+3-1)!}{3!(8-1)!}$

$= \frac{10!}{3!(7)!}$

$= 120$ ways

5

F10 & 1

D

Answer Question 1.

(1) = (outfit) 5 skirts
8 shirts
6 pairs of shoes.

5 + 8 + 6 = 19

∴ 19 outfits can she wear. //

Answer Question 2.

(2) 10 games, 5 win, 4 loses, 1 tie

$= \frac{10!}{5!4!1!} = \frac{10!}{5!4!} = 1260$ ways. //

Answer:

$= \frac{10!}{5!4!1!}$

$= 1260$ ways //

Answer Q2

$= \frac{(n+r-1)!}{r!(n-1)!}$

$= \frac{(10+10-1)!}{10!(10-1)!}$

$= 93,378$ ways

Answer Question 3.

(3) $nP_r = n!/(n-r)!$

$nP_r = \frac{n!}{(n-r)!}$

$10P_{10} = \frac{10!}{(10-10)!}$

∴ = 3,628,800 ways //

Question 1.

$5 \times 8 \times 6$

$= 240$ outfit.

Question 2.

$${}^{10}P_5 = \frac{10!}{(10-5)!}$$

$$= \frac{10!}{5!}$$

$$= 30240$$

$${}^{10}P_4 = \frac{10!}{(10-4)!}$$

$$= \frac{10!}{6!}$$

$$= 5040$$

$${}^{10}P_1 = \frac{10!}{(10-1)!}$$

$$= \frac{10!}{9!}$$

$$= 10$$

Question 3

$$\frac{(8+3-1)!}{3!(8-1)!} = \frac{10!}{3!7!} = 120$$

$$\frac{(8+4-1)!}{4!(8-1)!} = \frac{11!}{4!7!}$$

$$= 330$$

$$\frac{(8+1-1)!}{1!(8-1)!} = \frac{8!}{1!7!}$$

$$= 8$$

KEMENTERI/ PENDIDIKAN MALAYSIA — POLITEKNIK MALAYSIA		COURSE CODE/ COURSE NAME		DBM2033 DISCRETE MATHEMATICS
		COURSEWORK ASSESSMENT		QUIZ 4
		SESSION		DECEMBER 2018
JABATAN MATEMATIK, SAINS DAN KOMPUTER		DURATION	15 MINS	CLO1 ~~10 MARKS~~
NAME	Chai Siaw Hung			CLO2 2
REGISTRATION NO.	060071BE1065			CLO3
PROGRAMME/ SECTION	JTMK 1 DD12B	TOTAL MARKS		10 MARKS

Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working to get marks. You may use a non-programmable scientific calculator.

Question 1

CLO2, C2 [2 marks]

If a girl has 5 skirts, 8 shirts, and 6 pairs of shoes, how many outfits can she wear?

Question 2

CLO2, C2 [3 marks]

A college football team plays 10 games during the season. In how many ways can it end the season with 5 wins, 4 losses, and 1 tie?

Question 3

CLO2, C2 [5 marks]

If eight people eat dinner together, in how many different ways may 3 order chicken, 4 order steak and 1 order lobster?

Question 1:

$5 \times 8 \times 6 = 240$ ~~outfits~~ (2)

Question 2:

${}^{10}P_5 \times {}^{10}P_4 \times {}^{10}P_1 = 1524096000$ ~~ways~~

${}^{10}C_5 \times {}^{5}C_4 = 1260$

Question 3:

${}^{8}P_3 \times {}^{5}P_4 \times {}^{8}P_1 = 4515840$ ways.

${}^{8}C_3 \times {}^{5}C_4 = 280$.