



**MODUL TOPIKAL
SOALAN PERCUBAAN SPM 2023
TOPIK TINGKATAN 5**

**BAB 4
PILIHATUR DAN GABUNGAN
(PERMUTATION & COMBINATION)**

**SUMBER SOALAN:
SOALAN – SOALAN PERCUBAAN**

TERENGGANU
NEGERI SEMBILAN
KELANTAN
SABAH
SBP
MELAKA
SELANGOR SET 1
PERAK

SKEMA JAWAPAN

DISUSUN OLEH:
PN. NOORUL HUDA BINTI MOHD HASHIM
(SMK TAMAN TASIK, TAIPING)

PN ZAINAB BINTI ABD RAHMAN
(SMK CONVENT, TAIPING)

SOALAN 1 : SOALAN PERCUBAAN SPM NEGERI TERENGGANU 2023 (KERTAS 1)

10	(a) (i) ${}^{12}C_4 \times {}^8C_4 \times {}^4C_4$	K1	8
	34650	N1	
	(ii) ${}^{12}C_7 \times {}^5C_4 \times {}^1C_1$	K1	
	3960	N1	
(b)	(i) $59 \times 58 = 3422$	N1	8
	(ii) $21 \times 4 \times 4 \times 62 \times 62$ atau setara	K1 K1	
	1291584	N1	

SOALAN 2 : SOALAN PERCUBAAN SPM NEGERI TERENGGANU 2023 (KERTAS 2)

2	${}^mC_2 = 15$	P1	3
	$\frac{m!}{(m-2)!2!} = 15$ & Selesaikan $m^2 - m - 30 = 0$		
	ATAU ${}^mC_2 = {}^6C_2$	K1	
	$m = 6$	N1	

SOALAN 3 : SOALAN PERCUBAAN SPM NEGERI KELANTAN 2023 (KERTAS 1)

10	6!! atau 2!2!2!	P1	
(a)	$\frac{6!!}{2!2!2!}$ 90	K1 N1	
10	(i) $\frac{5!}{(5-3)!3!}$ atau $\frac{5 \times 4 \times 3 \times 2 \times 1}{2 \times 1 \times 3 \times 2 \times 1}$ 10	K1 N1	
(b)	(ii) ${}^1C_1 \times {}^3C_1 \times {}^6C_1$ atau ${}^1C_1 \times {}^6C_2$ 33	K1 N1	7

SOALAN 4 : SOALAN PERCUBAAN SPM NEGERI SABAH 2023 (KERTAS 1)

10	(a) (i) ${}^{12}P_4 \times {}^8C_6$ atau ${}^{12}C_4 \times 4! \times {}^8C_6$ = 332 640	K1 N1	
	(b) (ii) ${}^7P_2 \times {}^5P_2 \times {}^8C_6$ atau ${}^7C_2 \times 2! \times {}^5C_2 \times 2! \times {}^8C_6$ = 23520	K1 N1	6
	(c) ${}^2P_2 \times (9-1)!$ atau $7! \times {}^8C_1 \times 2!$ atau setara = 80 640	K1 N1	

SOALAN 5 : SOALAN PERCUBAAN SPM SBP 2023 (KERTAS 1)

11(a)(i)	${}^5C_5 \times {}^7C_1 + {}^5C_4 \times {}^7C_2$	K1	4	
	112	N1		
(ii)	${}^7C_4 \times {}^5C_2 + {}^7C_5 \times {}^5C_1 + {}^7C_6 \times {}^5C_0$	K1		
	462	N1		
(b)	$\frac{6!}{2!4!} @ \frac{7!}{3!4!}$	K1	3	
	$\frac{6!}{2!4!} \times \frac{7!}{3!4!}$	K1		
	525	N1		7

SOALAN 6 : SOALAN PERCUBAAN SPM NEGERI MELAKA 2023 (KERTAS 1)

12. (a)	$\frac{n(n-1)!}{(n-1)!}$	1	
	n	1	
(b) (i)	$(5-1)! \times 2$	1	
	48	1	
(ii)	$(6-1)! - 48$	1	6
	72	1	

SOALAN 7 : SOALAN PERCUBAAN SPM NEGERI SELANGOR SET 1 2023 (KERTAS 1)

4	(a)	(i)	$\frac{8!}{2(8)} @ \frac{(8-1)!}{2}$ 2520	K1	
		(ii)	$\frac{{}^8P_5}{2(5)}$ 672	K1	
	(b)		${}^6C_3 \times {}^8C_3 \times {}^3C_2$ 3360	K1	
				N1	
					6

SOALAN 8 : SOALAN PERCUBAAN SPM NEGERI PERAK 2023 (KERTAS 1)

2	${}^nC_3 = 4 \times {}^{n-2}C_2$	1	3
	$\frac{n!}{3!(n-3)!} = 4 \times \frac{(n-2)!}{2!(n-4)!}$		
	$\frac{n(n-1)(n-3)!}{3!(n-3)!} = 4 \times \frac{(n-2)(n-3)(n-4)!}{2!(n-4)!}$		
	$n^2 - 13n + 36 = 0$ (sekiranya ada langkah kerja ketiga)		
	$n = 4$ atau $n = 9$		