2025 ASOC ANSWER BOOKLET

Name:	School:	Account Number:			
Section A.	Multiple choice questions (30 marks	s)			
Section 71.	ividitiple enoice questions (50 mark	· <i>)</i>			
Please rec	Please record your answers from Q1 to Q15 on the online platform.				
Section B:	Short answer questions (90 marks				
Question 16	5				
(a)					
(b)					
(c)					

	(d)
L	
Г	(e)
	(f)
	(g)

(h)	
	(i)
	(ii)
	(iii)
	(iv)
(i)	

Question 17

(a)

Figure 1	
Figure 2	
Figure 3	
Figure 4	
Figure 5	
Figure 6	

(b)

Question	Protein H	Protein I	Protein J	Protein K
Number				
Number				
Number				
If				
Number				
Number				

Number		
Number		
If		
Number		
Number		
(c)		
(d)		
Protein L		
Protein M		
Protein N		
Protein O		
(e)		
(f)		

Question 18

(a)				
(b)				
(c)				
(d)				
(e)				
(i)				
P =	S =	T =	Q =	

(ii)				
P =	S =	T =	Q =	
(iii)				
P =	S =	T =	Q =	
(iv)				
P =	S =	T =	Q =	
(f)				
(g)				
(h)				
(i)				

(j)			
(k)			
(1)			
(m)			

(n)		
(o)		
(p)		

END OF THE ANSWER BOOKLET

Avogadro constant (N) = $6.022 \times 10^{23} \text{ mol}^{-1}$	Velocity of light (c) = $2.998 \times 10^8 \text{ m s}^{-1}$
1 Faraday = 96 485 coulombs	Density of water at 25 °C = 0.9971 g cm^{-3}
$1 \text{ A} = 1 \text{ C s}^{-1}$	Acceleration due to gravity = 9.81 m s^{-2}
Universal gas constant (R)	1 newton (N) = 1 kg m s ⁻²
$8.314 \text{ J K}^{-1} \text{ mol}^{-1}$	
$8.206 \times 10^{-2} \text{ L atm K}^{-1} \text{ mol}^{-1}$	
Planck's constant (h) = $6.626 \times 10^{-34} \text{ J s}$	$1 \text{ pascal (Pa)} = 1 \text{ N m}^{-2}$
Molar volume of ideal gas	$pH = -\log_{10}[H^+]$
• at 0 °C and 100 kPa = 22.71 L	$pH + pOH = 14.00 \text{ at } 25^{\circ}C$
• at 25 °C and 100 kPa = 24.79 L	$K_{a} = \{[H^{+}][A^{-}]\} / [HA]$
• at 0 °C and 101.3 kPa = 22.41 L	$pH = pK_a + \log_{10}\{[A^-]/[HA]\}$
• at 25 °C and 101.3 kPa = 24.47 L	PV = nRT
	E = hv
Surface area of sphere $A = 4\pi r^2$	$c = v\lambda$

Periodic Table of Elements

1																	18
1 H 1.008	2		atomic number Symbol atomic weight									13	14	15	16	17	2 He 4.003
3	4											5	6	7	8	9	10
Li 6.94	Be 9.01											B 10.81	C 12.01	N 14.01	O 16.00	F 19.00	Ne 20.18
11	12					_						13	14	15	16	17	18
Na 22.99	Mg 24.31	3	4	5	6	7	8	9	10	11	12	Al 26.98	Si 28.09	P 30.97	S 32.07	CI 35.45	Ar 39.95
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
K 39.10	Ca	Sc 44.96	Ti 47.87	V 50.94	Cr 52.00	Mn 54.94	Fe 55.85	Co 58.93	Ni 58.69	C u	Zn 65.38	Ga 69.72	Ge 72.63	As 74.92	Se 78.97	Br 79.90	Kr 83.80
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Rb 85.47	Sr 87.62	Y 88.91	Z r	Nb 92.91	Mo 95.95	Tc	Ru	Rh 102.9	Pd 106.4	Ag	Cd 112.4	In 114.8	Sn 118.7	Sb 121.8	Te 127.6	1 26.9	Xe 131.3
55	56		72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Cs	Ba	57-71	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	TI	Pb	Bi	Po	At	Rn
132.9 87	137.3 88		178.5 104	180.9 105	183.8 106	186.2 107	190.2 108	192.2 109	195.1 110	197.0 111	200.6	204.4 113	207.2 114	209.0	116	117	118
Fr		89-103	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	FI	Мс	Lv	Ts	Og
-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 3

57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu
138.	9 140.1	140.9	144.2	-	150.4	152.0	157.3	158.9	162.5	164.9	167.3	168.9	173.0	175.0
89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
Ac	: Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
-	232.0	231.0	238.0		-	-	-	-	-	-	-	-	-	-