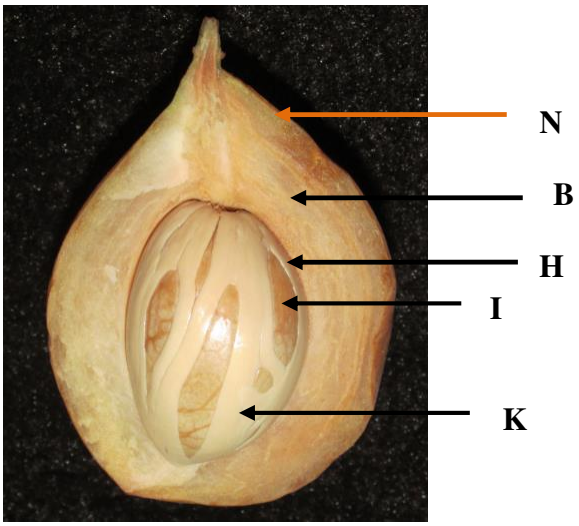
PART TWO: Biology, Characteristics of Nutmeg [13.0 points]

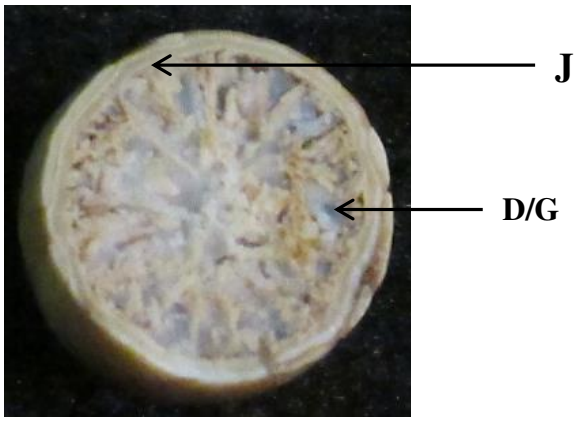
A. Nutmeg Fruit

Question	**Bi-1.** Draw the longitudinal section of the fruit with the seed intact! **Bi-2.** Label parts of the fruit with reference provided on the answers box. Show the fruit parts by arrows. Choose the corresponding parts from the answers box and write down the answer by writing the letter only (for example A, B, C etc.).	Points	Max
			
Bi-1	Drawing the correct longitudinal section of the fruit	0.25	2.0
	Drawing the cross section of the fruit	0.0	
	Size of the drawing is appropriate to the original fruit = 0.5 and correct proportion of the different parts = 0.5	1.0	
	Drawing the correct and complete 3 parts of the fruit (fruit, seed and arillus @ 0.25).	0.75	
	No drawing	0.0	
Bi-2	Correct labelling B = 0.6 point H = 0.6 point N = 0.6 point I = 0.6 point K = 0.6 point	3.0	3.0

Notes:

Pericarp	:	the walls of a ripen ovary or fruits (fruit coat: exocarp/epicarp, mesocarp and endocarp)
Seed	:	the fertilized mature ovule of flowering plant containing an embryo, the germ of propagative source, offspring or progeny)
Arillus/Aril/Mace	:	specialized outgrowth of a seed that partly or completely covered the seed

B. Nutmeg Seed

Question	**Bi-3. Draw the cross section of the seed!** **Bi-4.** Label parts of the seed with reference provided on the answers box. Show the seed parts by arrows. Choose the corresponding parts from the answers box and write down the answer by writing the letter only (for example A, B, C etc)	Points	Max
			
Bi-3	Drawing the correct cross section of the seed	0.5	3.0
	Drawing the longitudinal section of the seed	0.0	
	Size of the drawing is appropriate to the original seed	0.5	
	Correct drawing of the internal seed parts (testa/seed coat (J)= 1.0 point, endospem/perisperm (D/G))= 1.0 point Drawing the incomplete internal parts of the seed (without testa (J) or endosperm/perisperm (D/G) = 1.0 point	2.0	
	No drawing	0.0	
Bi-4	Correct labelling : testa/seed coat (J)= 1.0 point, endosperm/perisperm (D/G) = 1.0 point. Only one correct labeling: testa/seed coat (J) or endosperm/perisperm (D/G) = 1.0 point	2.0	2.0
	No label	0.0	

Notes:

Seed coat/Testa : the outer protective covering of a seed
Endosperm : a tissue produced inside the seeds of most flowering plants it surrounds the embryo and provide nutrition in the form of starch, it can also contain oils and protein

C. Nutmeg Fruit and Seed Characteristics

Question (Points)	Fruit and Seed Classification Tick (√) one correct answer on each classification categories (A-F) in the box provided below! (0.5 point for each correct answer)				
Bi-5 (3.0)	A. Fruit origin:	√	Simple fruit		Compound fruit
	B. Fruit composition:	√	True fruit		Accessory fruit
	C. Fruit description:	√	Fleshy fruit		Dry fruit
	D. Fruit type:		Pome	√	Drupe
	E. Seed cotyledon:		Monocotyledon	√	Dicotyledon
	F. Seed shape:		Round	√	Ovoid