

SKEMA PEMARKAHAN **BAHAGIAN B** KERTAS 2 MODUL 1 2014 MPSPM KEDAH

No			Marking Criteria	Marks	Total Marks
6	(a)	(i)	<p>P1: Intracellular enzymes are produced and retained in the cell</p> <p>P2: For the use of the cell itself</p> <p>P3: Extracellular enzymes are produced in the cell but secreted from the cell</p> <p>P4: To function externally</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p>	4 marks
		(ii)	<p>P1: The nucleus contain DNA which carries the information for the synthesis of enzymes</p> <p>P2: The genetic information is transcribed from DNA to RNA in the nucleus</p> <p>P3: The RNA leaves the nucleus and attaches to ribosomes on the rough endoplasmic reticulum</p> <p>P4: Proteins that are synthesized at the ribosomes are transported through the space within RER</p> <p>P5: Proteins depart from RER wrapped in vesicles that bud off from the membrane of the RER</p> <p>P6: The transport vesicles fuse with the Golgi Apparatus and empty their content into the membranous space</p> <p>P7: The protein are further modified during their transport in Golgi Apparatus</p> <p>P8: Secretory vesicles containing enzymes bud off from Golgi Apparatus and travel to plasma membrane</p> <p>P9: These vesicles fuse with plasma membrane and release the extracellular enzymes</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>Any 8</p>	8 marks
	(b)		<p>P1 : Enzyme / P is represent the lock</p> <p>P2 : Substrate / Q is represent the 'key'</p> <p>P3: Enzyme / P is specific</p> <p>P4: Enzyme / P only can combined with substrate / Q</p> <p>P5: Enzyme/ P has specific active site which can fit into specific substrate / Q</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	8 marks

			<p>P6: The substrate / Q binds with the active site/ enzyme to form an enzyme-substrate complex</p> <p>P7: Enzyme / P convert / hydrolysed / breakdown substrate /Q into products/R</p> <p>P8: The products/R are released from the enzymes</p> <p>P9: The enzyme/P remain unchanged at the end of the reaction</p> <p>P10 : Enzyme P can be reused</p> <p>P11: The enzyme/P is now free to bind with another molecule of substrate/Q</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>Any 8</p>	
				20 marks	

No			Marking Criteria	Marks	Total Marks
7	(a)	(i)	P1 : Organ X is gall bladder P2: Gall bladder stores bile P3: Bile emulsify lipid to tiny droplet P4: To increase the total surface area / TSA/V of the lipid P5 : Organ Y is pancreas P6: Pancrease secretes pancreatic juice containing lipase P7: Lipase hydrolyse /digested/breakdown lipid into fatty acid and glycerol	1 1 1 1 1 1	6
	(a)	(ii)	P1: Protein is digested/break down into amino acid in digestion system P2: Amino acid absorbed by the the blood capillaries in the villus P3: From villus, amino acid is transported to the liver. P4:Then to the body cells via blood circulatory system P5: In body cell, amino acid is used to produce protoplasma/repair damaged tissue/synthesis enzymes/hormone P6: In liver , acid amino is used to synthesis protein plasma P7: Excess amino acid is convert o urea P8: Through deamination process P9 : urea is harmful to human body P10: Urea is transported to kidneys P11 To be excreted (through urethra) in the form of urine	1 1 1 1 1 1 1 1 1 1 Any 8	8

7	(b)	<u>Pregnant woman</u> P1: Need a diet rich in calcium and phosphorus P2: For the formation of strong bones in growing foetus P3: More folic acid/ferum is needed for the formation of red blood cell/haemoglobin. P4: High protein is needed for formation new tissue/ the growth of foetus.	1 1 1 1	3
		<u>Teenager</u> P5: Protein is needed for rapid growth	1	Any 3
		P6 : More carbohydrates is needed to provide sufficient energy for their active lifestyle.	1	
		P7 : High ferum diet is needed to synthesis haemoglobin after menstruation.	1	
		P8 : Vitamin/minerals to maintain good health	1	
			3+ 3	6
		Total marks		20

No		Marking Criteria	Marks	Total Marks
8	(a)	<p><u>Inhalation</u></p> <p>P1 : the frog lower the bottom level of the mouth and glottis close</p> <p>P2 : increase the volume of buccal cavity / lower the pressure in the buccal cavity.</p> <p>P3 : air is drawn in into the buccal cavity</p> <p>P4 : nostril closed, glottis opened and bottom level of mouth is raised.</p> <p>P5 : Air is push into the lungs.</p> <p><u>Exhalation</u></p> <p>P6 : lung muscles contract</p> <p>P7 : glottis opened // air is forced into the buccal cavity</p> <p>P8 : nostril opened, glottis closed and bottom of mouth is raised.</p> <p>P9 : air is forced out from the buccal cavity</p> <p style="text-align: right;">Any 6 Ps</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	6
8	(b)	<p>P1 : (During the running), more energy is needed</p> <p>P2 : more oxygen is needed (to produce energy)</p> <p>P3 : oxygen demand/supply is not sufficient</p> <p>P4 : anaerobic respiration occur / takes place</p> <p>P5 : lactic acid is produced</p> <p>P6 : (accumulation of) acid lactic causes muscle pain</p> <p>P7 : (after the running), a lot oxygen is drawn in</p> <p>P8 : oxygen is used to oxidized lactic acid (into energy, CO₂ and water)</p> <p>P9 : Athlete B will recover faster from muscle pain</p> <p>P10 : (By walking slowly), blood flow is more smooth</p> <p>P11 : more oxygen is transported by the blood stream to the muscle</p> <p style="text-align: right;">Any 8 Ps</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	8

8	(c)		P1 : The mountain climber is carrying / wearing the oxygen supply equipments / respirator. P2 : As the altitude increase, the atmospheric pressure decrease P3 : the partial pressure / amount of oxygen decrease as well P4 : low atmospheric pressure cause less air is drawn into the lungs P5 : The mountain climber facing lack of oxygen (in the body) P6 : Oxygen supply equipment / respirator supply enough oxygen for the body P7 : (It also) assists in maintaining the pressure of the lungs P8 : The mountain climber also wearing thick clothes P9 : As the altitude increase, the temperature decrease P10 : Thick clothes help the climber to maintain the body temperature. Any 6 Ps	1 1 1 1 1 1 1 1 1 1	6
					20 marks

No		Marking Criteria	Marks	Total Marks
9	(a)	F : The activity is illegal logging/deforestation	1	10 marks
		P1 : Soil erosion	1	
		P2 : Reduce Water catchment area	1	
		P3 : Plant roots system makes the soil stable	1	
		P4 : Leaves /branches acting as span to slow down water flow	1	
		P5 : Deforestation cause rain water flow very fast and erode the soil.	1	
		P6 : Landslides	1	
		P7 : Forest root system clutch the soil.	1	
		P8 : without roots system makes the soil unstable /lead to landslides	1	
		P9 : Flash floods	1	
		P10 : The eroded soil carried away by moving water deposited at the bottom of the rivers		
		P11 :Contribute to the sedimentation of the rivers becomes shallow causes flash flood during rainy seasons.	1	
		P12 : Loss of biodiversity	1	
		P13 : causes organism lose their habitat / extinction of animals	1	
		P14: Climatic changes	1	
		P15 : forest acting as ' Carbon sink' of the earth	1	
		P16 : absorbed vast amount of carbon dioxide during photosynthesis and released oxygen to atmosphere	1	
		P17 : Deforestation contribute to increase in the amount of carbon dioxide in the atmosphere	1	
		P18 : Lead to the global warming/green house effect	1	
		[any 10]		

	(b)	(i)	P1: The reaction causes the thinning of ozone layer P2 : Allowed the UV light penetrate to the earth P3: destroyed plankton in the food web P4 : Disturb the ecology balance in the water ecosystem P5: Decrease the number of stomata and chlorophyll on the leaves P6: Plant cannot carry out photosynthesis /biotic component threatened P7 : Many plant die// cause carbon dioxide increase P8 : Atmospheric temperature increase P9 : Lead to green house effect/global warming P10: Many organism which feed on plant die P11: Disturb the food web /ecosystem the any [Any 8]	1 1 1 1 1 1 1 1 1 1 1	10 marks
			F1 : Introduce new chemical substance HCFC to replace the used of CFC F3 : Enforce the laws to ban the use of material contains Chlorofluorocarbon [2 marks]	1 1	1