



Oxford Cambridge and RSA

...day June 20XX – Morning/Afternoon

GCSE (9–1) in Food Preparation and Nutrition

J309/01 Food Preparation and Nutrition

SAMPLE MARK SCHEME

Duration: 90 minutes

MAXIMUM MARK 100



This document consists of 28 pages

Text Instructions

PREPARATION FOR MARKING SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to scoris and mark the **required number** of practice responses (“scripts”) and the **number of required** standardisation responses

YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the scoris 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the scoris messaging system, or by email.

5. Work crossed out:
 - a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
 - b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.
6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.
7. There is a NR (No Response) option. Award NR (No Response)
 - if there is nothing written at all in the answer space
 - OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
 - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the questionNote: Award 0 marks - for an attempt that earns no credit (including copying out the question)
8. The scoris **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
If you have any questions or comments for your team leader, use the phone, the scoris messaging system, or e-mail.
9. Assistant Examiners will send a brief report on the performance of candidates to your Team Leader (Supervisor) by the end of the marking period. The Assistant Examiner's Report Form (AERF) can be found on the RM Cambridge Assessment Support Portal (and for traditional marking it is in the *Instructions for Examiners*). Your report should contain notes on particular strength displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.
10. For answers marked by levels of response:
 - a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer
 - b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. **Annotations** used in the detailed Mark Scheme (to include abbreviations and subject-specific conventions)

Annotation	Meaning

Question			Answer	Marks	Guidance	Level of response
1	(a)		One from each: 1. root • carrot • beetroot • swede • parsnip • turnip • radish • horseradish • mooli 2. leaf • cabbage • brussel sprouts • spinach • watercress • lettuce • chicory • pak choi 3. bulb • onion • leek • shallots • spring onion Award credit for any other appropriate response	3	1 mark for each correct answer Do not accept potato, sweet potato, yam (tubers)	
1	(b)		Two from: • It can help reduce the risk of heart disease • It helps prevent bowel cancer • It can help reduce diabetes • It can improve our digestive health • It helps prevent constipation	2	1 mark for each correct reason, max 2 marks	

Question			Answer	Marks	Guidance	Level of response
			• It helps prevent diverticulitis • It helps prevent haemorrhoids (piles) • It can help to control weight – high-fibre foods are filling • It makes you feel full so that you are less likely to eat foods/snacks in between meals. • It creates bulk in the intestine, holds water and keeps faeces soft, linked to lowering blood cholesterol level Award credit for any other appropriate response			
2	(a)		• Bridge hold • Claw grip	2	1 mark for each correct grip, max 2 marks	
2	(b)		1. Palette knife 2. Fish filleting knife 3. Paring knife/vegetable knife	3	1 mark for each correct knife, max 3 marks Do not accept spatula for palette knife	
3	(a)		Replace: • strong plain white flour with wholemeal or brown flour to provide fibre for good digestive health • natural full fat yogurt with low fat yogurt to reduce the fat content and therefore reduce the risk of heart disease and obesity • ghee with vegetable oil to reduce the amount of saturated fat and therefore reduce the risk of heart disease and obesity • whole milk with skimmed milk or semi – skimmed milk to reduce the saturated fat	4	1 mark for stating whether each chosen ingredient needs to be replaced, reduced or added 1 mark each for the explanation of how you could modify them, max 2 marks	

Question			Answer	Marks	Guidance	Level of response
			content and therefore reduce the risk of heart disease - lamb quantity with a lower quantity of lamb or change to a white meat (chicken/turkey/pork) to reduce the amount of saturated fat and therefore reduce the risk of heart disease and obesity - replace salt with herbs and spices to reduce risk of high blood pressure Reduce: - salt in bread and/or filling to reduce risk of high blood pressure Add: - more vegetables/beans/pulses or nuts to the filling to provide extra fibre for good digestive health - seeds to the bread to provide extra fibre for good digestive health - a named vitamin or mineral and named function in the body Award credit for any other appropriate response		No marks for just choosing an ingredient e.g. Ghee: replace with vegetable oil 1 mark Explanation: to reduce the amount of saturated fat 1 mark or to reduce the amount of heart disease and obesity 1 mark Candidates must choose two different government dietary guidelines	
3	(b)		Three from: - Wash hands before and after touching raw meat - Use separate boards (red) for preparing raw meat - Use separate knives (red handle) - Clean surfaces after use - Cook to 70°C for 2 minutes/cook to 75°C for 30 seconds/cook to 80°C for 6 seconds/cook to 86°C instant reading	3	1 mark for each correct rule, max 3 marks	

Question			Answer	Marks	Guidance	Level of response
			• Use a food probe to check the core temperature of the food • Clean food probe with an antibacterial wipe before re-testing • Check the temperature of the meat at the thickest point • If not cooked immediately, cool to below 5°C as soon as possible (within 90 minutes) Award credit for any other appropriate response			
3	(c)		One from: • High food quality standards have been used across the supply chain therefore food is safe to eat • The food consumers buy is traceable – from farm to fork for consumer protection • The food consumers buy is produced responsibly from farm to fork – animal welfare links The food consumers buy is from farmed animals born, reared and slaughtered in the UK – animal welfare/supporting local British economy Award credit for any other appropriate response	2	1 mark for a reason 1 mark for explanation	

Question			Answer	Marks	Guidance	Level of response
4	(a)		1 Fresh fish – C 2 Leftover cottage pie – A 3 Packaged apple pie – A	3	1 mark for each correct answer	
4	(b)		Two from: • anchovies • eel • grey/red mullet • herring • mackerel • pilchards • salmon • sardine • snapper • trout • tuna • whitebait Award credit for any other appropriate response	2	1 mark for each correct answer	
4	(c)		Two from: • eyes: bright, full and not sunken; no slime or cloudiness • gills: bright red in colour; no bacterial slime • flesh: firm, translucent , must not be limp • scales: flat, moist, plentiful and in tact • smell: pleasant with no smell of ammonia or sourness • skin: should be covered with a fresh sea slime	2	1 mark for each correct answer	

Question			Answer	Marks	Guidance	Level of response
4	(d)		Sensory aspect: Taste Lemon flavour - • Marinade the fish in lemon marinade (juice, rind or both) before coating • Add grated lemon rind or juice to breadcrumb mix • Bake with lemon to infuse flavour Sensory aspect: Sight Golden crumb - • Add spice extracts to the crumb to give a golden colour e.g. paprika or turmeric • Fry the fish longer for a more golden colour Use a different type of breadcrumb that browns more quickly when fried Sensory aspect: Sight Evenly coated - • Use finer breadcrumbs • Add more breadcrumbs Sensory aspect: Mouth feel Crispy coated - • Cook at the correct temperature • Change the method of cooking • Change ingredients, e.g. drier coating	4	Do not accept just lemon as an improvement (needs to be lemon flavour) 1 mark for each sensory aspect identified correctly, max 2 marks 1 mark for a suitable suggestion for improving the dish for each sensory aspect, max 2 marks Accept reference to either the named sense or the quality	
5	(a)		• Strong plain flour: the gluten in the flour helps to form the structure of the pastry • Butter: flavouring and colour • Eggs: binding/aeration/coagulation/colour/raising agent • Water: when heated creates steam or water vapour which raises the choux pastry Award credit for any other appropriate response	4	1 mark for each correct answer, max 4 marks Do not accept colour more than once Do not reward more than one function for each ingredient	

Question			Answer		Marks	Guidance	Level of response
5	(b)		Problem Choux pastry mixture too thin to pipe.	Reason • Inaccurate weighing and measuring of ingredients • Too much egg added • Too much water added • Insufficient flour added • Water not boiling when flour added	2	1 mark for each correct reason (per problem)	
			Cooked choux pastry has a close and heavy texture.	• Basic mixture over cooked • Oven too cool • Inaccurate weighing and measuring of ingredients • Too much flour used • Insufficient water used • Insufficient egg used • Self-raising flour used instead of strong plain flour • Plain flour used instead of strong plain flour • Insufficient beating when eggs are added			
5	(c)		What happens: • Fat melts • Starch in the flour softens • Starch grains swell and absorb the milk • Stir to help to keep the starch grains suspended otherwise they will join together and form lumps • At approximately 60 °C the starch grains are at their optimum absorption • Starch grains break open and form a gel		4	Award 1 mark for each relevant point, max 4 marks	

Question			Answer	Marks	Guidance	Level of response
			- This is known as gelatinisation - Sauce thickens - The process of gelatinisation is completed at 100°C		Accept alternative acceptable spellings of 'gelatinisation' such as 'gelatinization'	
6	(a)		'Best before': - Guidance date for the consumer (food safety recommendation) - Quality will deteriorate: texture/shape - Quality will deteriorate: flavour - Quality will deteriorate: smell - Quality will deteriorate: appearance - Used for low risk foods Award credit for any other appropriate response	2	2 marks for well-explained point 1 mark for at least one correct fact	
6	(b)		Two from: - Canning (tinned tomatoes) - Ultra Heat Treatment (UHT) (passata) - Bottling (tomato sauce) - Adding acid/vinegar (chutney) - Dehydration (dried/sundried) - Freezing (tomato soup, puree tomatoes) Award credit for any other appropriate response	2	1 mark for each correct answer, max 2 marks Do not accept frozen whole tomatoes	
6	(c)*		Answers could include: For: - Improvements to the quality and quantity of food - It can grow in adverse conditions, for example drought areas	8	To gain full marks candidates must reference <i>for</i> and <i>against</i> factors	Band 3 (6–8 marks) There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and

Question			Answer	Marks	Guidance	Level of response
			• They can be herbicide and insect resistant, therefore thrive better • Can be higher in nutritional quality • Can have longer shelf-life • Crops can be modified to reduce or eliminate allergic reactions • Crops could be altered to have medicinal benefits, e.g. contain vaccines for specific diseases • Crops can be created that give higher yields and better quality food • Can be cheaper to produce • Sustainable way to feed the developed world Against: • Long-term safety is unknown • Environmental concerns, e.g. pollen can spread resulting in cross pollination between non GM and organic crops thereby contaminating them • The altered genetic composition could result in toxic and allergic reactions in certain people • Not beneficial to small-scale farmers Award credit for any other appropriate response			substantiated, showing a clear understanding and evaluation of the factors for and against the use of GM foods. Specialist terms are used appropriately and correctly. Band 2 (3–5 marks) There is a line of reasoning presented with some structure that is in the most part relevant and supported by some evidence showing an understanding and evaluation of the factors for and against the use of GM foods. There will be some specialist terms used although these may not always be used appropriately. Band 1 (1–2 marks) The information is basic and communicated in an unstructured way. The candidate shows limited understanding and evaluation of the factors for and against the use of GM foods. Answers may

Question			Answer	Marks	Guidance	Level of response
						be ambiguous or disorganised. (0) marks: no response worthy of credit
7	(a)	(i)	Two from: • Lactose intolerant • Vegan/ovo-vegetarian • Milk allergy Award credit for any other appropriate response	2	1 mark for each correct answer, max 2 marks Do not accept vegan and ovo-vegetarian as two separate answers	
7	(a)	(ii)	One from: • almond milk • buffalo milk • coconut milk • goats milk • hemp milk • oat milk • potato milk • quinoa milk • rice milk • seven grain milk • sheep's milk • soy/soya milk • sunflower milk Award credit for any other appropriate response	1	1 mark for a correct answer	
7	(b)	(i)	Reasons to include: • Safe to use • Extends shelf life - prevents souring	2	1 mark for each correct answer, max 2 marks	

Question			Answer	Marks	Guidance	Level of response
			Kills harmful micro-organisms, destroy enzymes		2 marks should be awarded for saying making it safe to use as harmful bacteria are destroyed	
7	(b)	(ii)	Description to include: (milk is) heated to a temperature of at least 72°C for a minimum of 15 seconds and maximum of 25 seconds (milk is) cooled quickly to below 6°C	2	2 marks for a correct description Accept one well-reasoned point or two separate reasons	
7	(c)		Two from: - butter - buttermilk - cheese (any type) – not goat's milk cheese - crème fraîche - condensed milk - dried milk - evaporated milk - flavoured milks/milk shakes - fromage frais - kefir - quark - single, double, whipping, clotted and sour cream Award credit for any other appropriate response	2	1 mark for each correct answer, max 2 marks	
8	(a)		Two from: - Seasonal foods - Wider variety of produce	2	1 mark for each correct answer, max 2 marks	

Question			Answer	Marks	Guidance	Level of response
			• Good knowledge from the seller • Supports local farmers • Supports local economy • Good quality/fresh • Concerns over food miles/carbon footprint • May be organic Award credit for any other appropriate response			
8	(b)	(i)	Two from: • Enables the body to absorb iron • Needed for the production of collagen (collagen is required to bond cells together) • Helps the immune system • Helps develop healthy skin, teeth and hair	2	1 mark for each correct function, max 2 marks	
8	(b)	(ii)	Two from: • Store potatoes for a short period of time • Use potatoes as fresh as possible • Cook with a lid on to minimise oxidation • Once potatoes are cut, place in boiling water quickly to destroy enzyme activity • Do not soak potatoes in water before cooking • Cook in small quantities as quickly as possible • Use the cooking liquid, e.g. for gravy • Cook by steaming/baking • Do not peel – boiled/jacket potatoes	2	1 mark for each way to conserve, max 2 marks	
8	(c)	(i)	Even cooking	1		

Question			Answer	Marks	Guidance	Level of response
8	(c)	(ii)	Remove the starch	1		
8	(c)	(iii)	Explanation to include: - the potato cells contain enzymes - once you cut the potatoes you open up some of the cells - the enzyme (ascorbic acid oxidase) is then exposed to oxygen in the air and it turns the potato brown - this is called enzymic browning	2	2 marks for well-reasoned explanation 1 mark for reaction to oxygen/air	
8	(c)	(iv)	- Conduction - Convection	2	1 mark for each correct answer, max 2 marks	
9*			Factors can include: - consuming more calories (energy) than are burnt - eating excessive amounts of calorie-rich foods - increase in the consumption of fatty and sugary foods - high-energy, sugary drinks - inactivity - sitting for long periods of time, watching the TV and playing computer games - poor eating patterns, e.g. not eating breakfast - increase in the consumption of fast foods - lack of food education - poor eating patterns - learned habits/family influence - unhealthy food choices - overweight parents	12	Do not accept 'heart problems'	Band 3 (8–12 marks) An excellent, well-balanced answer showing thorough knowledge and the ability to analyse, explain and assess the factors leading to childhood obesity and the impact this could have in later life. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.

Question			Answer	Marks	Guidance	Level of response
			• some children more susceptible to being overweight • overall cost of food has gone down • more food is prepared and eaten away from home • portion sizes have increased • marketing/advertising of energy dense food and drinks has increased • lack of participation in sport • limited access to healthy affordable food • eating high calorie snacks before meals e.g. biscuits, crisps etc. • working parents – ready meals/take-aways • low-income – high calorie foods cheaper than healthy options Award credit for any other appropriate response Factors impacting in later life could include: • CHD/heart disease • Obesity • Some cancers • Poor skin • Stroke • High blood pressure • High blood cholesterol levels • Narrowing of the arteries • Diabetes type 2 • Arthritis • Breathing problems • Emotional problems such as depression • Restricts movement/difficulty doing physical activity			Band 2 (4–7 marks) A good well-balanced answer showing good knowledge and a clear understanding of the factors leading to childhood obesity and the impact this could have in later life. There is a line of reasoning presented with some structure which is in the most part relevant. Band 1 (1–3 marks) Some analysis and demonstration of knowledge with reference to the factors leading to childhood obesity and the impact this could have in later life is evident. The information is basic and communicated in an unstructured way. (0) Marks: no response worthy of credit

Question			Answer	Marks	Guidance	Level of response
			• Joint/back pain • Sleep apnoea • Decreased fertility • Pregnancy complications • Gall stones/gall bladder disease • Liver/kidney disease • Increased sweating Award credit for any other appropriate response			
10	(a)		Three from: • Afghanistan: obi non • Australian: damper • China: mantou • Czech republic and Slovakia: vánočka • Eastern Europe: bagel • Ethiopia: injera • France: baguette, croissant, brioche, pain au chocolat • Greek: pitta, matzo • Holland: tiger bread • India/Pakistan: chapatti, naan, paratha, roti • Iran: lavash • Ireland: soda • Italy: ciabatta, focaccia, grissini • Japanese: melanpan • Mexico: tortilla • Scotland: buttery rowies • Serbia: cesnica • Switzerland: pane ticinese • Tibet: balep korkun • Turkey: bazlama, lavash, pita, yulka	3	1 mark for each correct answer, max 3 marks Do not accept the name of a manufacturer e.g. Hovis or Warburtons alone	

Question			Answer	Marks	Guidance	Level of response
			- UK: barrel, batch, bloomer, cob, coburg, Cornish splits, cottage, farmhouse, farmhouse, plait, rolls, sliced wrapped, soda bread, stottie, tin, English muffin - Venezuela/Colombia: arep - Wales: bara brith Award credit for any other appropriate response			
10	(b)		Explanations may include: - For food to be labelled as organic, 95% of ingredients must come from organically produced plants and animals - Organic agriculture is carried out to a set of legally defined standards. Producers then pay to have their produce monitored and certified by one of several organic organisations, of which the soil association is the largest in the UK - Organic foods are produced as naturally as possible using organic farming methods - Food is grown in organic soil which contains ingredients that have been certified as organic - Food is grown without the use of artificial chemicals - Organic meat, poultry, eggs and dairy products come from animals that are given no antibiotics or growth hormones - Organic food will not contain any genetically engineered ingredients - Food is grown without the use of fertilisers	2	2 marks for reasoned explanation 1 mark for at least one correct fact	

Question			Answer	Marks	Guidance	Level of response
			Food is grown without the use of chemical pesticides (some pesticides are allowed) Award credit for any other appropriate response			
10	(c)*		Specific needs of older people: - Older people unable to synthesise vitamin D in the skin. It is recommended they eat bread fortified with vitamin D - Some old people, especially those living in institutions have low intakes and/or low blood levels of a range of micro-nutrients such as iron, vitamin D and calcium - Energy requirements decrease with old age - General healthy eating guidelines apply to older people Both breads contribute: - carbohydrate - required for energy - protein - required for tissue repair (collagen), secondary source of energy - iron - required for healthy blood to prevent anaemia Wholemeal bread contributes: - B vitamins - (B1 thiamine) (B3 niacin) for releasing energy - Folic acid - (B9) it helps the body to use protein - Vitamin E - (tocopherol) an antioxidant that prevents damaging substances getting into the body - May help in reducing the risk of some types of cancer and heart disease	6		Band 3 (5–6 marks) There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated, showing a clear understanding and comparison of the contribution sliced white and wholemeal bread can make to the nutritional needs of an older person. Specialist terms are used appropriately and correctly Band 2 (3–4 marks) There is a line of reasoning presented with some structure that is in the most part relevant and supported by some evidence showing an understanding and comparison of the contribution sliced white and wholemeal bread can make to the

Question			Answer	Marks	Guidance	Level of response
			- Fibre linked to healthy digestive system/risk of heart disease/intestinal disorders - Increased fibre because 100% of wheat grain is used - Vitamin B increase because whole grain is used White: flour fortified with: - Calcium – helps in the prevention of and reduces the risk of: osteomalacia, bone density, osteoporosis - Vitamin D (cholecalciferol) (some food companies) – helps with the absorption of calcium preventing and helping to reduce osteoporosis - Less vitamin B/fibre because lower extraction rate (70-75%) removes vitamins and fibre		Band 1 if candidate only states nutrients and functions	nutritional needs of an older person. Some specialist terms used although these may not be always used appropriately. Band 1 (1–2 marks) The information is basic and communicated in an unstructured way. The candidate shows limited understanding and some comparison of the contribution sliced white and wholemeal bread can make to the nutritional needs of an older person. Answers may be ambiguous or disorganised. (0) marks: no response worthy of credit
10	(d)		Possible suggestions include: - Encourage consumers only to buy the amount of bread they need and to consume it before it goes stale or mouldy - Do not store bread in the fridge as it makes bread go stale more quickly (retrogradation) - Freeze bread - Encourage consumers to eat their crusts	4	1 mark for each relevant suggestion, max 4 marks	

Question			Answer	Marks	Guidance	Level of response
			• Greater consumer awareness, bad habits (throwaway society) • Use leftover or stale bread to make into other dishes: bread and butter pudding, summer pudding, queen of puddings, beefburgers and meatloaf • Use leftover or stale bread to make breadcrumbs for treacle tart, toppings e.g. pasta bake, coatings e.g. scotch eggs • Use stale bread for animal feed Award credit for any other appropriate response			

Question	AO1	AO2	AO3	AO4	Marks
1(a)	3				3
1(b)		2			2
2(a)	2				2
2(b)	3				3
3(a)		4			4
3(b)	3				3
3(c)	2				2
4(a)	3				3
4(b)	2				2
4(c)	2				2
4(d)		4			4
5(a)		4			4
5(b)		2			2
5(c)		4			4
6(a)	2				2
6(b)	2				2
6(c)*				8	8
7(a)(i)	2				2
7(a)(ii)	1				1
7(b)(i)		2			2
7(b)(ii)	2				2
7(c)	2				2
8(a)	2				2
8(b)(i)	2				2
8(b)(ii)		2			2
8(c)(i)		1			1
8(c)(ii)		1			1
8(c)(iii)		2			2
8(c)(iv)		2			2

Question	AO1	AO2	AO3	AO4	Marks
9*				12	12
10(a)	3				3
10(b)	2				2
10(c)*		6			6
10(d)		4			4
Total	40	40		20	100

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