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**FOOD STUDIES**

**9336/02**

Paper 2 Practical

**October/November 2016**

MARK SCHEME

Maximum Mark: 100

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**Published**

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>
1(a)	four dishes chosen suitability of each dish to show the use of haem and non-haem iron variety of skills shown without repetition	<b>4</b> <b>2</b> <b>2</b>
1(b)	choice of herbs /spices dish; degree of skill avoiding repetition with <b>(a)</b> ;	<b>1</b> <b>1</b>
1(c)(i)	foods that contain haemoglobin contain haem iron – animal sources; non-haem iron from plant sources; sources of haem iron – liver /kidney /red meat; sources of non-haem iron – green leafy vegetables /wholegrains /iron-fortified cereal /lentils /plain chocolate /soya bean flour /dried fruit /black treacle; iron is a component of haemoglobin – gives red blood cells their colour – haemoglobin is needed to transport oxygen around the body to every cell – for the production of energy and maintenance of all cell functions – prevents anaemia;	<b>4</b>
1(c)(ii)	vitamin C is quickly and easily destroyed, by dry and moist heat – water soluble so do not soak in water and use as little cooking water as possible; prepare just before eating – tear instead of cutting or use a sharp knife – cut into large pieces to avoid damage to cells; vitamin C is oxidised when exposed to air; oxidation is accelerated by heat – put a lid on the pan to stop oxidation; keep cooking time to a minimum – steam or microwave if possible – cook potatoes in their skins – use cooking liquid for gravy; do not put bicarbonate of soda /alkali in the cooking water; vitamin C is destroyed by exposure to metal ions like copper ions; serve as soon as possible after cooking; vitamins A, D, E and K are stable during cooking and preparation;	<b>6</b>
1(c)(iii)	include skills used – use of seasonal foods – ease of obtaining foods – oven management – time management – cost –	<b>4</b>
1(c)(iv)	nutritional value of dish chosen in <b>(b)</b>	<b>4</b>

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>
2(a)	four dishes chosen suitability of each dish to show the use of fats and oils variety of skills shown without repetition	<b>4</b> <b>2</b> <b>2</b>
2(b)	choice of herbs /spices dish; degree of skill avoiding repetition with <b>(a)</b> ;	<b>1</b> <b>1</b>
2(c)(i)	provides a concentrated source of energy; surrounds and protects vital organs; forms an insulating layer (adipose tissue) beneath the skin to help preserve body heat; provides a source of fat-soluble vitamins; provides flavour and texture in food and helps to make it palatable; gives a feeling of fullness; essential fatty acids – assist in the development of the brain and nervous system – regulate proper thyroid and adrenal activity – can thin blood and prevent blood clots which can lead to heart attacks /strokes – anti-inflammatory – can relieve symptoms of arthritis;	<b>4</b>
2(c)(ii)	saturated fatty acids – all the carbon-carbon bonds are single bonds; are generally present in fats which are solid at room temperature; unsaturated fatty acids – some of the carbon-carbon bonds are double bonds; monounsaturated fatty acids – fatty acids have one (carbon-carbon) double bond; polyunsaturated fatty acids – have more than one (carbon-carbon) double bond; unsaturated fatty acids are generally present in fats that are liquid at room temperature; saturated fatty acids – butyric acid found in butter – palmitic found in palm oil – stearic found in beef fat /cocoa butter; monounsaturated fatty acids – oleic acid found in olive oil; polyunsaturated fatty acids – linoleic acid found in sunflower oil – two double (carbon-carbon) bonds – linolenic acid – three double (carbon-carbon) bonds – found in rape seed; linoleic acid and linolenic acids are essential fatty acids;	<b>6</b>
2(c)(iii)	include skills used – use of seasonal foods – ease of obtaining foods – oven management – time management – cost –	<b>4</b>
2(c)(iv)	nutritional value of dish chosen in <b>(b)</b>	<b>4</b>

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>
3(a)	four dishes chosen suitability of each dish to show four of the listed changes variety of skills shown without repetition	<b>4</b> <b>2</b> <b>2</b>
3(b)	choice of herbs / spices dish; degree of skill avoiding repetition with (a);	<b>1</b> <b>1</b>
3(c)(i)	<p>max [2] for each method chosen</p> <p><i>coagulation</i> in meat collagen and elastin start to coagulate at 60 °C – muscle fibres shrink – water is forced out – collagen is converted to soluble gelatin – by moist heat – in eggs ovalbumin coagulates at 60 °C – becomes solid and opaque – vitellin coagulates at 70 °C – becomes dry and hard; in milk lactalbumin and lactoglobulin – coagulate and form a skin on the surface –</p> <p><i>gelatinisation</i> moist heat (60 °C) on starch – starch grains swell – liquid absorbed by the starch granules – at 88–85 °C grains rupture – amylose and amylopectin become dispersed in fluid – sol is formed (thickens) –</p> <p><i>emulsification</i> for example, conversion of two or more immiscible liquids into an emulsion – during this process, large fat globules are broken down into smaller, evenly distributed particles – the liquids are combined very slowly – usually drop by drop – while beating vigorously – which suspends drops of liquid throughout each other –</p> <p><i>aeration</i> incorporation of air into ingredients to make them lighter – generate more volume – chemical aeration by the use of baking powder – mechanical aeration by the use of a whisk – biological aeration the use of yeast – sifting – whisking – creaming – rolling and folding –</p> <p><i>caramelisation</i> application of heat to sugar causing it to turns brown – happens when water has been evaporated – different stages between 104–177 °C – eventually burning occurs –</p> <p><i>dextrinisation</i> application of heat to starch – breaks down into dextrin –</p>	<b>8</b>

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<b>Question</b>	<b>Answer</b>	<b>Marks</b>
3(c)(ii)	four suitable examples of foods to illustrate the changes chosen in <b>(c)(i)</b>	<b>2</b>
3(c)(iii)	include skills used – use of seasonal foods – ease of obtaining foods – oven management – time management – cost –	<b>2</b>
3(c)(iv)	nutritional value of dish chosen in <b>(b)</b>	<b>4</b>