

MARK SCHEME for the October/November 2008 question paper

9336 FOOD STUDIES

9336/01

Paper 1 (Theory), maximum raw mark

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1 (a) Ways in which the body uses energy

basal metabolism – involuntary processes – which keep the body alive – heartbeat – blood circulation – breathing etc.

heat energy – to maintain body temperature – at 98.4°F / 37°C – more energy used in cold conditions –

physical activity – varies according to amount of movement – e.g. walking uses less energy than playing football (or any other examples) – upward movement requires most energy – e.g. climbing –

chemical reactions – all changes within cells require energy – digestion – metabolism – growth – repair / maintenance of cells etc.

electrical energy – nervous impulses – require energy for transmission

12 points

2 points = 1 mark

[6]

(b) Explain the reasons for different individual energy requirements.

(Do not credit method of measuring BMR)

body size – women have lower BMR than men – lighter weight –

have proportionally more body fat – and less lean tissue –

under-nutrition – reduces lean body mass –

can exist on less energy than is considered adequate –

age – children have smaller body size – less heat loss from surface –

have lower BMR – average BMR falls with increased age –

activity of thyroid gland – secretion of iodine-containing hormones –

controls metabolic rate – e.g. thyroxin – overactive thyroid increases BMR –

thermogenic effect of food – intake of food stimulates metabolism –

metabolic rate increases after a meal – extra energy in form of heat –

occupation – sedentary workers require less energy than manual workers –

activity level – sportsmen require more energy

state of body – energy required to produce new cells – after injury –

and for production of new cells during pregnancy –

and for production of milk – during lactation –

climate – more energy required in cold temperatures than in hot –

to maintain body temperature

to maintain a constant body weight – weight differs between individuals –

to reduce body weight – energy output must be greater than input –

energy obtained from stored body fat –

function of glands / internal organs – varies according to health –

food intake – etc.

gender – men require 10–20% more energy per kg of body weight than women

personality – a calm, placid person requires less energy than a nervous person

amount of sleep – more hours of sleep reduce energy requirement –

any activity requires more energy than sleeping

stage in life-cycle – affected by sleep / activity / food intake etc.

24 points

2 points = 1 mark

[12]

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- (c) Describe the digestion and absorption of starch and sugar.
in mouth – ptyalin / amylase – from salivary glands – acts on cooked starch – to form maltose
in duodenum – amylase – from pancreatic juice – converts starch to maltose –
in ileum – maltase – from intestinal juice – converts maltose to glucose –
sucrase / invertase – converts sucrose – to glucose and fructose –
lactase – converts lactose – to galactose and glucose –
maltose, sucrose and lactose are disaccharides –
fructose, galactose and glucose are monosaccharides –
hydrolysed by digestive enzymes – absorbed as monosaccharides –
absorbed by active transport – into blood capillaries – in villi –
into blood stream – pass to hepatic portal vein – then to liver –
liver changes all monosaccharides to glucose – glucose passes to cells –
by active absorption – involving use of cell energy
[At least 4 points on absorption]

14 points

2 points = 1 mark

[7]

2 (a) Classification of fruit

Citrus fruit oranges – grapefruit – lemons – limes etc.
Stone fruit plums – peaches – cherries – apricots etc.
Berry fruit raspberry – strawberry – gooseberries etc.
Dried fruit currants – raisins – sultanas – figs – prunes etc.
Fleshy fruit apples – pears – pineapples – melons
Currants blackcurrants – red currants
Nuts almonds – walnuts – hazelnuts etc.
Accept local classification e.g. drupes etc.

Types of fruit 5 x 1 point

2 examples of each type = 1 point 5 x 1 point

10 points

2 points = 1 mark

[5]

(b) Nutritional importance of fruit in the diet

protein – LBV – in nuts –
growth – repair – energy – enzymes etc.
starch – in under-ripe fruit – bananas etc.
energy
sugar – in ripe fruit – grapes – oranges etc.
energy
fat / oil – avocado – olives
energy – insulation – protection etc.
vitamin A – as carotene – tomatoes – apricots etc.
visual purple – mucous membranes – healthy skin etc.
vitamin C – strawberries – citrus fruit – blackcurrants etc.
absorption of iron – formation of connective tissue etc.
calcium – dried apricots – figs etc.
bones / teeth – clotting of blood – muscle function etc.
iron – dried figs – dried apricots – prunes
haemoglobin – energy – prevention of anaemia etc.
NSP – apple skin – tomato seeds – rhubarb etc.
Stimulates peristalsis – prevention of constipation etc.

20 points

2 points = 1 mark

[10]

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(c) Other factors

High water content – 70% body – constituent of body cells –
 Temperature control – waster removal – transport of nutrients
 Add colour – e.g. red pepper, green peas
 Add flavour – e.g. – raw and cooked fruits give different flavours
 Variety of textures and shapes – e.g.
 Add bulk – feeling of fullness – useful when controlling kcal intake
 Can be cooked in many ways – e.g.
 Can be preserved in many different ways – jam / pickles / canned / dried
 Thirst quenching because of high water content e.g. melon / orange etc.
 Inexpensive – can be grown at home – buy in bulk and store / freeze
 Large variety available
 Can be imported from other countries
 Low in energy value – valuable in calorie-controlled diet
 Useful snack food – easy to carry – easy to eat – e.g. bananas etc.

20 points

2 points = 1 mark

[10]

3 (a) (i) Structure of monosaccharides

single molecule – $C_6H_{12}O_6$

Structure of disaccharides

2 molecules of monosaccharide – $C_{12}H_{22}O_{11}$

1 molecule of water lost in reaction – condensation

Structure of polysaccharides

Long chains of glucose molecules – $(C_6H_{10}O_5)_n$

Water lost in reaction – condensation –

Can be linear – or branched

More than one type of monosaccharide joined together

(ii) Properties of monosaccharides

Sweet taste – water soluble – foundation for di and polysaccharides

Can be absorbed into bloodstream

Properties of disaccharides

Water soluble – broken down to monosaccharides during digestion

Sucrose very sweet

Properties of polysaccharides

Available carbohydrate can be digested into simple sugars –

then absorbed into the bloodstream after digestion –

Unavailable carbohydrate cannot be digested –

Insoluble in water

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(iii) Examples of monosaccharides

Glucose – fructose – galactose (max. 2 examples)

Examples of disaccharides

Sucrose – lactose – maltose (max. 2 examples)

Examples of polysaccharides

Available carbohydrate – starch – glycogen

Unavailable carbohydrate –

Linear – e.g. amylose – cellulose – dietary fibre / NSP (max. 2)

Branched – e.g. pectin – gum – mucilage (max. 2)

20 points 2 points = 1 mark

[10]

(b) (i) Importance of NSP in the body

aids process of excreting solid waste – which is potentially toxic to the body –
 absorbs water – binds waste to itself – increases bulkiness of waste –
 making it soft – and easier to expel – regularly – and without discomfort –
 stimulates muscles of intestinal walls – peristalsis –
 gives something for muscles to grip – pushes waste along colon –
 absorbs toxins –
 prevents constipation – diverticular disease – when pouches develop in intestine –
 making it distorted – faeces collects and is retained by the body –
 may cause varicose veins (haemorrhoids) – cancer of colon etc.
 gives a feeling of fullness – may prevent over-eating – in weight control etc.
 lowers blood cholesterol as binds salts derived from cholesterol therefore reducing
 risk of coronary heart disease
 slows the rate of sugar absorption and reduces risk of diabetes

12 points 2 points = 1 mark

[6]

(ii) Reasons for an insufficient supply of NSP

Over-refined food – e.g. white flour – white bread – polished cereals –
 May be due to advertising in media – or children having no choice over diet –
 Too high intake of convenience foods – which have low NSP content –
 Too little fruit – and vegetable intake – not eating skins
 Little nutritional knowledge / understanding
 Snack on sweets – instead of nuts – dried fruit etc.
 Few families cook meals from raw ingredients – working wives etc.

8 points 2 points = 1 mark

[4]

(c) Effects of excess carbohydrate in the diet

Glucose – end product of breakdown of carbohydrate – converted to glycogen –
 stored in liver – and muscles – readily available source of energy –
 converted to fat – stored all over body – in adipose tissue –
 and around internal organs – obesity – Coronary Heart Disease –
 diabetes – if there is a lack of insulin –
 link to tooth decay – acids in mouth – produced by oral bacteria –
 break down sugars in the plaque on teeth – acid damages tooth enamel –

Dietary fibre / NSP – shorter transit time for food in digestive tract –
 interferes with absorption of minerals e.g. iron, zinc etc. –
 due to phytates / phytic acid –
 slows down rate of sugar absorption – reduces risk of diabetes etc.

10 points 2 points = 1 mark

[5]

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- 4 (a) Discuss the particular dietary needs of adolescents.
 [Only credit nutrients and functions that relate to adolescents]

protein – HBV – contains all Indispensable Amino Acids (IAAs) –
 for growth spurt – more cells – greater volume of blood –
 hormones for changes within body etc.
carbohydrate / starch – increased activity – energy for growth –
fat – for energy – concentrated source – reduces bulk of food needed –
 too much may aggravate skin disturbances –
calcium – more rapid growth of bones –
phosphorus – with calcium for bone growth
vitamin D – absorption of calcium – prevention of rickets
iron – greater volume of blood – especially for girls – lost during menstruation –
 prevent anaemia –
vitamin C – absorption of iron – clear skin –
vitamin A – clear skin
thiamin – release of energy from carbohydrates – growth –
riboflavin – metabolism of proteins – fatty acids – carbohydrates –
 affects growth rate
niacin – metabolism of proteins – fatty acids – carbohydrates –
 affects growth rate
little sugar – empty calories – link to obesity – tooth decay –
 reduces appetite
fruit and vegetables – water – NSP – clear skin etc.

20 points

2 points = 1 mark

[10]

- (b) Many adolescents have an unbalanced diet. Discuss possible reasons for this.
 snack between meals – or instead of meals – lack of parental supervision –
 availability of junk food – fast food outlets –
 spending money / pocket money available –
 peer pressure – less active – do not use up all kcal taken in –
 eat what given by parents at home – or may not have family meals – food fads –
 weight-reducing diets – miss meals – because of school activities –
 or socialising – overeat at other meals – buy lunch at school –
 food available may be high in fat / kilocalories – may be food stalls / shops nearby
 quick – easy – desire to be thin – anorexia – bulimia – poor self-image –
 influence of advertising – etc.

10 points

2 points = 1 mark

[5]

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(c) Many adolescent girls suffer from anaemia.

(i) Describe and account for the condition.

ANAEMIA

reduced number of red blood cells – so reduced amount of oxygen carried – causes lack of energy – tiredness / lethargy – headaches – dizziness –

CAUSES

lack of **cobalamin (B12)** – with folic acid – for formation of red blood cells – deficiency causes pernicious anaemia – caused by a failure to absorb vitamin B12

lack of **folic acid** – concerned with formation of red blood cells – protein found in stomach – known as intrinsic factor – must combine with the vitamin before absorption – may occur in vegans –

iron deficiency – formation of haemoglobin – red pigment in blood – transports oxygen – from lungs to cells – to oxidise glucose – release energy – only 5 – 20% protein absorbed – depends on form of iron – most readily absorbed as haem iron – ferrous – less readily as non-haem – ferric – must reduce from ferric to ferrous – aided by **vitamin C** – anaemia may be cause by lack of vitamin C –

phytic acid – interferes with iron absorption – also **oxalic acid** – and **tannins** – consumption of foods containing these substances reduces absorption – e.g. phytic acid in wholemeal cereals / pulses
oxalic acid in green vegetables / spinach
tannins in tea

could mention sickle cell anaemia

12 points

2 points = 1 mark

[6]

(ii) Discuss methods for its prevention.

Ensure supplies of:

folic acid found in liver – green leafy vegetables – nuts – pulses

cobalamin found in liver / kidney – meat – eggs –

added to breakfast cereals – yeast extract

iron – (**ferrous**) – red meat – liver – kidney – eggs

(**ferric**) – pulses – green leafy vegetables – cocoa –

whole grain cereal – fortified breakfast cereal –

vitamin C – leafy vegetables – citrus fruit – strawberries – tomatoes etc.

must eat foods with iron and vitamin C at same meal – to aid iron absorption

regular / daily supply of vitamin C needed – cannot be stored in body –

Do not credit names of nutrients in both (i) and (ii).

Allow max. 2 sources of each nutrient identified.

8 points

2 points = 1 mark

[4]

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5 (a) Discuss the composition and nutritive value of eggs.

Composition

11% shell – mainly calcium carbonate – unavailable to body –
protects egg from damage – and bacteria – porous –
58% white – thick and viscous around yolk – thinner and more transparent
nearest shell – protein – water – trace of riboflavin –
31% yolk – anchored to shell by chalazae – hold yolk centrally –
carotene gives yolk its colour – depends on food eaten by hen –
less water than egg white – more protein – fat – in small droplets –
oil-in-water emulsion – lecithin – cholesterol in fat – iron – sulphur –
chlorine / magnesium / sodium / potassium – vitamin A – vitamin D –
vitamin E – vitamin K –

Nutritive value

HBV protein – contains all IAAs – colloidal solution – albumin – in white –
vitellin – in yolk –
growth – repair – maintenance – energy – enzymes / hormones / antibodies etc.
fat – saturated – cholesterol – link to CHD –
energy – insulation – protection etc.
iron – formation of haemoglobin – prevent anaemia – transport of oxygen – energy –
vitamin A – fat soluble – mucous membranes – skin – visual purple etc.
vitamin D – fat soluble – absorption of calcium – bones and teeth etc.
riboflavin – release of energy from carbohydrate / protein / fat – growth etc.

20 points to cover both areas without repetition

2 points = 1 mark

[10]

(b) Identify and explain the changes that take place in eggs during storage.

air space increases in size – due to loss of water through porous shell –
and replacement by air –
water passes from white to yolk – due to osmotic pressure exerted by yolk –
yolk enlarges – membrane surrounding it weakens –
thick white becomes thinner –
pH of both white and yolk increases – due to loss of carbon dioxide through shell –
solution of carbon dioxide in water is a weak acid – loss of CO₂ increases alkalinity
after some time bacterial spoilage occurs – enter egg through porous shell –
hydrogen sulphide produced – by bacterial breakdown of protein – bad smell –
when cracked and placed on a plate will spread more when older –
flatter – because thick white has become thinner / more watery –

10 points 2 points = 1 mark

[5]

(c) Describe and explain the effect of heat on eggs.

protein coagulates – egg white at about 60°C – becomes opaque –
forms a gel – yolk proteins at about 66°C – yolk thickens – solidifies at 70 C
rate increases by presence of salts – and acid – e.g. salt and vinegar –
added to water for poaching eggs – to bring about rapid coagulation –
iron sulphide formed – may cause a black ring around yolk of hard-boiled egg –
sulphur from amino acids in egg white – iron from yolk – happens more in stale eggs –
reduce discoloration by placing in cold water after cooking –
small loss of thiamin and riboflavin –
prolonged boiling causes egg white to become tough – and rubbery –
yolk becomes dry – and powdery – hard boiled eggs may be difficult to digest

10 points 2 points = 1 mark

[5]

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(d) Discuss and give examples of the following uses of eggs:

(i) emulsification:

e.g. mayonnaise – rich cakes –

egg yolk contains lecithin – an emulsifying agent –
allows oil and water to combine – in a stable mixture –
molecules of the emulsifier (egg) surround droplets of dispersed liquid –
egg surrounds oil – lowers surface tension between the two liquids –
enabling them to combine – stabilisers are long chain molecules –
e.g. protein in egg – which form a network in the continuous phase –
i.e. the liquid / vinegar in mayonnaise – which separates the droplets of oil –
known as the disperse phase – and prevents coalescence
credit excellent drawing

1 point for example + at least 2 other points

(ii) foam formation.

e.g. meringue – soufflé – mousse – sponge cakes – bread

formed when gas is dispersed through a liquid – honeycomb mesh is formed –
globular protein in egg white – unfolds – and stretches – when whisked –
protein molecules bond with each other – forming a network –
air bubbles surrounded by egg white film – and are trapped – beating creates heat –
to slightly coagulate the protein – and stabilise the foam – mixture becomes stiff –
opaque – white – and glossy – foams used to aerate mixtures –
fresh eggs foam best – presence of fat – e.g. on beater – or broken egg yolk –
reduces volume of foam – acid improves stability – e.g. cream of tartar in meringue –
when heated foam coagulates – giving a solid foam – as in bread

1 point for example + at least 2 other points

10 points

2 points = 1 mark

[5]

6 (a) Give advice, with reasons, on the choice of fat, flour and sugar for rich cakes.

Flour

soft flour – with low gluten content – for a short – tender crumb –
self-raising flour – contains correct amount of raising agent –
raising agent is evenly mixed –
if plain flour used – must have baking powder – in correct proportion –
white flour – gives a better rise –
brown flour – for colour – flavour – NSP – but poorer rise etc.

Fat

butter – for flavour – and colour – but can be expensive –
more difficult to cream – not suitable for vegans
soft – margarine – for colour – creams easily – traps air well –
cheaper than butter – suitable for vegans if based on vegetable oil etc.

Sugar

Caster sugar – small / fine grains – dissolves easily during creaming –
to give an even colour – traps air more easily during creaming –
granulated sugar – cheaper – can be ground into caster sugar –
soft brown sugar – for flavour – and colour – more difficult to cream etc.
At least 4 points from each area

18 points

2 points = 1 mark

[9]

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(b) Name and explain the action of each of the raising agents in rich cakes.

Air

incorporated during sieving four – creaming – beating in eggs – trapped within mixture – expands on heating – pushes mixture upwards – causing mixture to rise

Steam

produced from liquids in mixture – e.g. egg
heat of oven changes water to steam – 1600 x greater than volume of water – increases volume of mixture – steam escapes – replaced by air –

Carbon dioxide

Produced from action between bicarbonate of soda – and an acid – usually cream of tartar – in baking powder – on presence of heat – and moisture – quick reaction – leaves a colourless – and tasteless residue – gas expands on heating – pushes up mixture – before shape is set –

3 named gases 3 x 1 point

At least 1 other fact about each gas 3 x 1 point

6 other points from any area (without repetition)

12 points

2 points = 1 mark

[6]

(c) Identify and explain the methods of heat transferred involved when the cake is baked.

Convection

occurs in liquids – and gases – in oven – and within cake – molecules expand when heated – become less dense – and rise – cooler – less dense molecules sink – to take their place – convection currents set up – process in continuous –

Conduction

occurs in solids – heat transferred from one molecule to the next – by contact – dense materials are better conductors of heat than less dense – metals are good conductors – metal oven shelves are heated by convection – transfer heat to cake tin – then to contents of tin – passes through food by conduction – contact between molecules of mixture

2 named methods 2 x 1 point

At least 1 other fact about each method 2 x 1 point

8 points

2 points = 1 mark

[4]

(d) Describe, with reasons, how to pack and freeze a decorated cake.

open freeze – to avoid damage to decoration

pack in rigid box – to prevent squashing

should be airtight – waterproof – not damaged by cold temperature –

e.g. polythene / Tupperware

label – name – date – portions – ‘best before’ date

freezer on fast freeze – to reach temperature of -25°C – before freezing –

to avoid damage to cell walls of fruit – which may have been used to decorate –

structure would collapse on thawing – juice would run out –

after fast freezing store cake at -18°C –

6 points to cover both areas

2 points = 1 mark

[3]

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- (e) Discuss reasons why some people choose to buy cakes instead of making them at home.
 buying saves time – may have work outside home / other commitments –
 saves effort – fuel – may not have an oven – only have a microwave oven –
 not suitable for baking cakes – may not have appropriate cake tin –
 or equipment for mixing – and decorating –
 may need it for a special occasion – need a cake which looks good –
 may not have skills to make – or decorate –
 may not be confident – especially if required for people other than family –
 saves buying a range of ingredients – could be cheaper if ingredients left over –
 avoids waste of additional ingredients – sure that results are good –
 consistent product – can see before buying etc.

6 points

2 points = 1 mark

[3]

7 (a) (i) caramelisation:

action of heat – on sugar – more readily in absence of water –
 sweet – brown substance – a mixture of carbohydrate-like compounds –
 molecular structure changes – due to removal of water
 e.g. surface of baked cakes, toffee, fudge etc.

6 points – to include 1 example

2 points = 1 mark

[3]

(ii) dextrinisation:

action of heat – on starch – dextrans polymerise –
 shorter chains of glucose units – stage between starch and glucose –
 in hydrolysis of starch
 forming brown-coloured compounds – sweet taste –
 e.g. toast, bread crust etc.

6 points – to include 1 example

2 points = 1 mark

[3]

(iii) enzymic browning:

when cut cells of fruit / vegetables – are exposed to air –
 enzymes in cells – oxidised – colourless compounds –
 become brown coloured compounds – only in raw fruit / vegetables –
 enzymes destroyed by heat –
 e.g. apples, potatoes etc.

6 points – to include 1 example

2 points = 1 mark

[3]

(iv) grilling:

colour change from red to brown – above 65°C –
 pigment myoglobin – changes to hemichrome –
 fat browns on surface –
 protein coagulates – further heating denatures – browns
 e.g. steak, bacon, salmon etc.

6 points – to include 1 example

2 points = 1 mark

[3]

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(v) Maillard reaction.

chemical reaction – between free amino group – in protein –
 and carboxyl group – of a reducing sugar – e.g. glucose –
 brown-coloured compounds formed –
 can cause discoloration during storage – e.g. dried milk, condensed milk
 e.g. bread crusts, roast meat, fried potatoes, cakes etc.

6 points – to include 1 example

2 points = 1 mark

[3]

(b) Discuss the use of natural and artificial colourings.

Give examples to illustrate your answer.

make food attractive – stimulate appetite –
 colourful food looks fresh –
 herbs – e.g. parsley, mint, chives etc.
 spices – e.g. turmeric, curry, ginger etc.
 fruit syrup – jam – cocoa – coffee – lemon / orange rind etc.
 may add nutrients as well as colour –
 may replace colours lost during processing – e.g. green in peas –
 manufacturers will sell more of a product if colour replaced –
 addition of colours controlled by food regulations –
 natural additives may be used – but not natural in the food product –
 e.g. caramel in gravy browning –
 some natural colouring extracted from plants – e.g. chlorophyll –
 carotene – may be used to give margarine a yellow colour –
 15 permitted artificial colours – azo dyes also used – e.g. tartrazine –
 in confectionery, fruit juices etc.
 cochineal from beetle – vegetarians need to know E number –
 E numbers indicate that additives have been tested and approved by EU –
 Some dyes produce colour expected by consumer – consistent product –
 e.g. Brown FK (Brown For Kippers) – not approved by EU –
 possible health risk – long-term effects not known – may cause allergies –
 hyperactivity in children – not known whether stored in body –
 must use smallest amount possible to give desired effect –
 E numbers used instead of names – to help consumers identify –
 because names are complex – but most people do not take note of labels – etc.

20 points

2 points = 1 mark

[10]

8 (a) Discuss the factors which influence individual food choice.

Economic circumstances

amount of money available to spend on food –
 poorer people have to spend a higher proportion of their income
 on food – need to budget – less choice if less money
 food is a status symbol for rich people – smoked salmon, caviar etc.
 high expenditure does not always mean nutritional meals –
 cheaper foods can be very nutritious – milk, cheese, eggs etc.
 can choose cheaper sources of HBV protein – protein complementation –
 locally-grown vegetables often cheaper – can grow own produce –
 can keep chickens for family consumption etc. –
 nutritious diet need not be expensive – food in season –
 special offers etc.
 poor people may receive government help – free school meals –
 food aid – poverty limits choice of food – e.g. elderly – unemployed etc.

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Availability of food

Depends on where person lives – different foods available in different countries – little choice in developing countries – local staple food with little variation – depends on climate – and type of land – disasters such as drought etc may not favour rearing animals or growing certain crops – country may not have money for food imports – no variety from foods from other countries – no money for expensive agricultural developments – wealthy countries can afford to import food not available locally e.g. UK imports bananas, citrus fruit, coffee, tea etc. – wealthier countries have benefited from technological developments – e.g. new methods of preserving – and storing food – unknown in the past – increased availability of dried, canned and frozen foods – food in season – creation of new foods – TVP, instant desserts etc.

Nutritional knowledge

Choice may be affected by its nutritional value – cheaper HBV protein etc. – nutritional knowledge depends on education – differs between countries – nutrition may not be taught to everyone in school – knowledge varied – packaging may provide nutritional information – people may be more aware – well publicised dangers of excess fat, sugar, salt – increase in diabetes, obesity, CHD in more affluent countries – publicity campaigns in media – to increase awareness – and knowledge – need to know functions of food – and sources of nutrients – choice must be wise or health will be affected etc.

Marketing methods

Choice affected by how foods are sold – convenience of stores / stalls – consider hygienic conditions – and quality of food in local shops – markets and supermarkets offer wide choice – shopper must discriminate – manufacturers must produce food people want to buy – market research to find out consumer preferences – new products tested in certain areas – to judge consumer appeal – portion size – attractiveness of packaging – price – competition between stores – special offers – loss leaders etc. – advertising in newspapers and on TV – once inside shop will buy other products – methods of displaying goods – positioning – impulse buys near pay point – some advertisements appeal to children – sweets, McDonald's etc. – peer pressure – may feature nutritional information in adverts – breakfast cereals – role as educators etc.

Cultural and social habits

choose food liked by families – conditioning – vegetarian families – children will follow – may absorb our families attitudes towards foods – likes / dislikes – may be used to provide comfort, satisfaction, stress relief – may be a status symbol – certain brands of chocolate etc. – family patterns influenced by country and culture – each culture has its own foods – religious beliefs – cow sacred to Hindus – Jews must have animals slaughtered in a particular way – Roman Catholics will not eat meat on Fridays – dishes associated with festivals – Christmas cake, turkey for Thanksgiving – certain foods are symbolic of the occasion – wedding cake – lifestyle influences choice – meals can be special occasions to share – or snacks served at parties – to make people relax –

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Environment

may be determined by availability of low-priced local food –
 rice is staple in China – potatoes important in UK –
 people migrate and take beliefs and eating habits with them –
 most cities have a variety of types of food / restaurants –
 more mothers employed outside the home – convenience foods –
 more demand for snack food – may not be good for health –
 more people live alone – may snack or buy ready-to-eat food –
 high levels of fat – sugar – salt –
 increase in CHD – obesity – diabetes – tooth decay – hypertension etc.
 climate – hot food in cold weather etc. –

Physiological and psychological attributes

eating satisfies hunger –
 influenced by colour – flavour – texture – aroma of food –
 judge food by appearance – food is comforting – habit e.g. cinema –
 smell of bread may entice us to buy etc.
 effect of media – reducing diets
 state of health – diabetics will look at sugar content etc
 40 points 2 points = 1 mark

[20]

- (b) Explain how the information on food labels can help the consumer to make appropriate food choices.**

labels identify product – is it what is needed for recipe?
 brand – well-known – reliable – quality of product consistent –
 weight – can calculate unit cost – is it too expensive –
 can compare cost of different sized packages – brands –
 country of origin – may wish to avoid for political reasons –
 or perhaps a food scare – BSE in British beef –
 can check ingredients – may avoid certain E numbers – allergies –
 position of ingredients on list – large amount in neat beginning of list –
 e.g. fat / sugar / salt –
 dates – can determine shelf life – can food be used in time ? –
 can food be stored? – saves time shopping on another occasion –
 nutritional information – kcal value per portion – for dieters –
 amount of fat / salt / sugar – for special diets –
 saturated fats for those with CHD etc.

10 points 2 points = 1 mark

[5]