



**General Certificate of Secondary Education
2023**

Home Economics: Child Development

Unit 1

**Parenthood, Pregnancy and
the Newborn Baby**

[GCD11]

MONDAY 5 JUNE, MORNING

MARK SCHEME

General Marking Instructions

Introduction

The main purpose of the mark scheme is to ensure that examinations are marked accurately, consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidates' responses likely to be worthy of credit. It also sets out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for Home Economics: Child Development.

Candidates should be able to:

- AO1** Recall, select and communicate their knowledge and understanding of a range of contexts;
- AO2** Apply knowledge, understanding and skills in a variety of contexts and in planning and carrying out investigations and tasks; and
- AO3** Analyse and evaluate information, sources, and evidence; make reasoned judgements and present conclusions.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity that may reasonably be expected of a 16-year-old, the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 16-year-old GCSE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate and not worthy of credit.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response

In deciding which level of response to award, examiners should look for the “best fit” bearing in mind that weaknesses in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement.

The following guidance is provided to assist examiners:

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Quality of written communication

Quality of written communication is taken into account in assessing candidates’ responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is basic.

Level 2: Quality of written communication is competent.

Level 3: Quality of written communication is highly competent.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Basic): The candidate makes only a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Competent): The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 (Highly competent): The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that meaning is clear.

1 Read the following statements and tick the box beside each correct answer.

(a) C
(1 × [1])

[1]

(b) B
(1 × [1])

[1]

(c) B
(1 × [1])

[1]

(d) B
(1 × [1])

[1]

(e) D
(1 × [1])

[1]

AVAILABLE
MARKS

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- 2 (a) Label the diagram of the male reproductive system using the correct words from the box. (AO1)
- (i) Urethra
(ii) Penis
(iii) Scrotum
(iv) Testes
All other valid answers will be credited
(4 × [1]) [4]
- (b) Describe a miscarriage. (AO2)
- A spontaneous termination/**the loss of a pregnancy**/or before **24 weeks/baby comes out too early to survive on its own.**
 - Main sign is vaginal bleeding which may be followed by cramping and pain in lower abdomen.
 - Most common during first 12 weeks of pregnancy.
- Baby dies = [0]
All other valid points will be credited
(1 × [2]) [2]
- (c) Explain the role of the: (AO1)
- (i) Placenta
- Provides food to baby/nutrients
 - Provides oxygen to baby
 - Takes away carbon dioxide
 - Removes waste
 - Attaches to uterus wall and umbilical cord arises from it
- Removed when baby is born = [0]
All other valid points will be credited
(1 × [2]) [2]
- (ii) Cervix
- Strong ring of muscle which surrounds opening to uterus
 - Widens or dilates to 10 cm during labour/forms birth canal
 - Keeps baby in place while woman is pregnant
 - Closes off uterus during pregnancy/protects uterus from infection
 - Allows sperm to enter the uterus/fallopian tube
 - Allows menstrual flow to leave the body
- All other valid points will be credited
(1 × [2]) [2]
- (d) Discuss the role of a husband/partner **during pregnancy.** (AO2)
- Support/reassure the mother/comfort
 - Attend antenatal appointments or classes
 - Help around the house/household chores/make dinner
 - Make mother feel good about herself/compliment her
 - Help her relax by massaging her
 - Be involved with the birth plan and discuss birth options/preparations for baby
 - Care for other children/let mother rest
 - Encourage good eating habits/follow the Eatwell Guide
- All other valid points will be credited
(1 × [2]) [2]

- 3 (a) Discuss **two** ways that a pregnant mother can promote the healthy brain development of her baby in the womb. (AO2)

Answers may address **two** of the following points:

- Touch the bump in/response to the baby's movements
- Take time to relax during pregnancy/sing and talk to the unborn baby/ play music/baby will be used to the voice
- Do not eat undercooked meat or eggs, causes toxoplasmosis which can cause mental retardation
- Include **follic acid** as deficiency leads to neural tube being unable to close properly, leads to severe malformations of the brain and spinal cord
- **Avoid shark and swordfish** as they are high in mercury which can affect brain development
- Do not gain too much weight as this can contribute to premature delivery, early delivery is a high risk factor for mental impairment
- **Include vitamin B** (thiamine) by eating fortified breakfast cereals and eggs/this vitamin helps to develop the brain
- **Include iodine**/needed to make thyroid hormone which is essential for brain development
- Drugs/alcohol can lead to FAS (foetal alcohol syndrome) which affects brain development/pass into placenta/avoid smoking
- Avoid aspirin as it can stop blood from clotting and prevent bleeding in a baby's brain
- **Lack of Vitamin B1** deficiency can cause brain damage/food sources include peas, dried fruit, eggs, wholemeal bread, liver, fortified cereal
- **Include oily fish/source of omega-3 fatty acids**/found in mackerel, fresh tuna, salmon/no more than 2 portions of oily fish per week

All other valid responses will be given credit

Healthy diet = [0]

Relax = [0]

[1] Basic statement

[2] Accurate explanation

(2 × [2])

[4]

- (b) Below is a picture of non-identical twins in the womb. Write down **two** points about non-identical twins in the womb. (AO1)

- Can be same sex or different sex/gender
- Have separate amniotic sac (bag = 0)
- Have their own placenta
- Do not look the same/different DNA/genetics/look similar
- Formed from 2 separate eggs
- Two eggs fertilised by two different sperm cells

sac = [0]

All other valid answers will be credited

(2 × [1])

[2]

(c) Describe the development of the fetus in the uterus at week 28. (AO2)

- Fully formed but brain, lungs and digestive system are not fully mature/limbs developed
- May suck a finger or thumb
- 36–38 cm in length/weights just over 1 kg
- Heartbeat can be detected by doctor’s stethoscope
- Baby **moves vigorously in response to touch and sound**/a very loud noise may make baby jump and kick
- Hair on head is now clearly visible
- Bones are nearly developed, though still soft and pliable
- Baby is regularly passing urine into the amniotic fluid/swallowing small amounts of amniotic fluid
- Head can turn in the womb in response to a continuous bright light from outside
- Baby’s body is in proportion
- Fingernails appear/fingerprint
- Eyes open and closed, baby has a sleeping pattern
- Covered in vernix
- Lanugo begins to fall off
- Milk teeth have developed under the gums
- Good chance of survival if born prematurely
- Baby starts to look a little rounder as fat stores under the skin are forming/gaining weight quickly

All other valid answers will be credited

moves/kicks = [0]

heartbeat = [0]

[1] Basic statement

[2] Accurate with some description

[3] Accurate with some description relating to the development of the fetus at week 28.

[4] Accurate with clear description using specialist terminology relating to the development of the fetus at week 28

(1 × [4]) [4]

(d) Identify the following reflexes in a newborn baby. (AO1)

(i) Sucking reflex

(ii) Rooting reflex

(1 × [2]) [2]

AVAILABLE
MARKS

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4 (a) Write down **three** possible signs of pregnancy.

- Missed period/late period
- A metallic taste in the mouth
- Frequent urination
- Feeling dizzy
- Feeling nauseous/morning sickness/nausea
- Tiredness/fatigue
- Constipation
- Tender breasts/enlarged breasts
- Craving new foods
- Dark nipples/sensitive/tender
- Vaginal discharge
- Losing interest in food previously enjoyed
- More sensitive sense of smell/dislike of cooking/changes in appetite
- Slight thickening of waistline

sickness = [0]

weight gain = [0]

feeling sick = [0]

bigger stomach = [0]

cravings = [0]

All other valid points will given credit

(3 × [1])

[3]

(b) Discuss **two** factors a couple should consider when planning to have a baby.
(AO2)

Answers may address the following points:

- **Stable relationship** – should be able to give child love and care for it in a loving committed relationship, without arguments, need to support each other, their relationship may be under stress with lack of sleep etc./ mentally stable – working together to overcome challenges
- **Cultural variations** – what religion/faith/traditions to raise child
- **Career implications** – mother may not be returning to work, she may miss out on promotion, she might not be able to afford a childminder and will have to leave her work, father may need to work longer hours to earn money, may need to go for promotion to earn more money – resulting in more pressure on relationship
- **Pre-conceptual care** – changes to diet may be required, e.g. starting to take folic acid, cutting back on alcohol, smoking, exercise and controlling weight or losing weight
- **Home** – changes may be required – need to move to a bigger house to have more space for baby, garden for baby
- **Financial implications** – can the couple afford a baby, baby is expensive, e.g. equipment, clothes, childminding, need to consider their reduced income if mother not going to return to work. Will they require a bigger home, how will their lifestyle change to save money for the baby, what effect will it have on their leisure activities – will they be able to continue paying for gym membership, socialising at weekends
- **Parental age** – are they too old to have a young baby, can they cope physically with a new baby, how will their lifestyle change. Are they too young and not mature enough to cope with a baby – are they prepared to give up their time to look after a baby, will they be prepared to put their needs to one side

- **Available support** – need to consider what family and friends they have to help them, e.g. for babysitting, advice, socialising, to take child to school if needed, for childminding. Does the workplace have support, e.g. maternity, paternity leave, crèche available.

All other valid points will be given credit

(2 × [2])

[4]

(c) Explain why the following are carried out at an antenatal appointment. (AO2)

(i) Blood test

- To find out mum's blood group, if she needs blood transfusion during birth staff will know her blood group and can quickly access blood
- To test for anaemia, lack of iron, may make mum feel tired and less able to cope with blood loss during birth
- To test for blood sugar, this may indicate if mother has diabetes
- Test for STI's as they could lead to miscarriage and still birth if left untreated, may determine type of birth
- Test for rubella (German measles) which can seriously damage unborn baby
- Test for Hepatitis B, virus can cause serious liver disease, may infect baby if mum is carrier but baby can be immunised at birth to prevent infection
- Test for HIV which can cause AIDS and is passed to baby during pregnancy, if mum tests positive mum and baby can be treated immediately after birth to reduce risk of baby becoming infected
- To test Rhesus Factor, if mum is rhesus negative and baby rhesus positive mum will need injection immediately after birth because during birth mum can produce antibodies against the baby if small amounts of the baby's blood enter her bloodstream. The antibodies can cross the placenta leading to anaemia, jaundice, foetal brain damage
- Quadruple test to detect birth defects, e.g. Down's syndrome

All other valid answers will be credited

Blood pressure = [0]

Pre-eclampsia = [0]

(1 × [3])

[3]

(ii) Weight check

- Mothers weight is checked to ensure she is not gaining too much weight, more likely to need an assisted birth, mother could develop gestational diabetes or pre-eclampsia. It will be difficult to remove extra weight after birth and could lead to long term obesity and possible CHD, high blood pressure, diabetes
- Gains 450 g per week, indicates baby growing no more than 10–12 kg throughout pregnancy
- Low weight can be a sign that mother is not eating enough or has severe vomiting, which could mean she is not getting sufficient nutrients to provide for baby's development. Baby could be born with a low birth weight

All other valid answers will be credited

Healthy weight = [0]

(1 × [3])

[3]

13

5 (a) Explain conception.

Answers may address the following points:

- Sperm from enlarged penis travels from vagina through cervix and into fallopian tube
- Egg (ova) is released from the ovary and travels along fallopian tube
- Sperm and egg meet (fuse) in fallopian tube (**must be included for full marks**)
- Fertilised egg then travels to uterus where it embeds in the lining of the uterus (womb) for the foetus to grow

All other valid answers will be credited

(3 × [1])

[3]

(b) Hormones play an important role during pregnancy and child birth. Explain **two** of these hormones.

Progesterone

Answers may address the following points:

- Released in the ovary, plays a role in the menstrual cycle
- Maintains early pregnancy
- Prepares body for conception and pregnancy/prepares uterus to receive egg
- Encourages the growth of milk production in breasts
- Strengthens pelvic wall muscles in preparation for labour

Oxytocin

- Released during labour
- Stimulates the uterus to contract during child birth to form birth canal
- Responsible for the enlargement of uterus and breasts during pregnancy
- Helps to relax the pelvis joints to allow easier birth of baby – reduce excessive bleeding after birth/to help deliver placenta
- Used to induce birth – drip, pessary gel to soften cervix

Oestrogen

- Responsible for development of female sex organs
- Responsible for functioning of female sex organs/produce eggs
- Control menstrual cycle
- Strengthens the uterus/thickening lining of the womb
- Female sex hormone

Prolactin

- Controls milk production/makes milk
- Produced in the pituitary gland to promote milk production (lactation)
- The baby's sucking reflex stimulates the milk after birth
- Also acts on reproductive system to regulate immune system

All other valid answers will be credited

[1] mark awarded for name of hormone (2 × [1])

[2]

[2] marks awarded for description (2 × [2])

[4]

9

6 Analyse the effects of alcohol and drug taking on the unborn baby. (AO2, AO3)

AVAILABLE
MARKS

Alcohol

- Alcohol can pass across the placenta to the fetus blood, results in baby taking in alcohol
- Can interfere with the growth and development of the unborn baby
- During the first 10 weeks' development of the unborn baby, alcohol can cause malformations to heart, limbs and facial disfigurements
- Increase the risk of **miscarriage and stillbirth**
- Frequent drinking can interfere with unborn baby's growth and development
- If mother is frequently drinking it can affect the baby's development and it could suffer from lack of nutrients
- If mother is an alcoholic, baby can be born with FAS (fetal alcohol syndrome), resulting in long term brain damage, missing limbs and abnormal facial features, e.g. cleft palate
- Liver is underdeveloped and cannot process alcohol as the placenta does not filter it
- Mother falling causes foetal distress/loss of amniotic fluid/early labour – mother falling – hurts baby = [0]

All other valid points will be credited.

Only credit miscarriage/stillbirth once

Drugs

- Drugs can pass across the placenta into the baby's blood and circulate around the baby's body
- **Miscarriage/stillbirth can happen**
- Baby can be born addicted to drugs and have withdrawal symptoms, e.g. vomiting, diarrhoea, irritability, joint stiffness/high pitched cry
- Chance of baby getting HIV if mum shares needles
- Baby could be born with low blood sugar (hypoglycaemia), internal head bleeding
- **Baby can be born prematurely, with low birth weight**
- Medicines can affect baby and not recommended, need to check with doctor first – can cause premature onset of labour

All other valid points will be given credit.

Level 1 ([1]–[2])

Overall impression: Basic

- Shows limited knowledge and understanding.
- Identifies and comments on a few obvious points relevant to mother consuming alcohol and drugs during pregnancy.
- A limited assessment applied in simple terms to the question.

Max [3] if only one aspect discussed

Level 2 ([3]–[4])

Overall impression: Competent

- Shows good knowledge and understanding.
- Identifies and comments on some key points relevant to mother consuming alcohol and drugs during pregnancy.
- A competent discussion on effects of alcohol and drugs on unborn baby.

Max [4] marks if just listed and no explanation

Level 3 ([5]–[6])

Overall impression: Highly competent

- Shows excellent knowledge and understanding.
- Identifies and comments on a wide range of effects relevant to drinking alcohol and taking drugs on the unborn baby.
- A highly competent discussion on effects of alcohol and drugs on unborn baby.

(1 × [6])

[6]

AVAILABLE
MARKS

6

- 7** Mary is pregnant and is planning a home birth.
Evaluate a home birth.

Advantages

- Comfort of own home, feel more relaxed, familiar surroundings, more comfortable and relaxed for birth/no packing for hospital
- Other family members, e.g. dad, siblings can be present, hold baby, enjoy the experience, encourage mother during labour
- Family members can be involved, do chores, look after baby, good for family relationships, help them bond with baby
- Familiar midwife, reassuring for mother, can discuss her preferences, midwife prepared for birth
- Visitors can come at any time, no restrictions, mother can decide when she wants to see them, can distract mother
- More privacy for mother, no other patients there, can set her own routines, meal times
- Baby is in routine straight away at home, may be more settled, no other babies crying
- Water birth available at home

Disadvantages

- No specialist equipment if anything goes wrong, e.g. heart monitor, incubator, operating facility if caesarean needed
- No specialist staff, e.g. obstetrician if mother has problems, paediatrician if baby ill when born/only midwife there
- No access to range of pain relief, e.g. no epidural as anaesthetist required/only breathing techniques, aromatherapy and maybe water birth available
- If complications arise may be delay in getting help, e.g. ambulance may be called, adds to risk for mother and baby
- No set visiting hours so mother may get little rest, lots of visitors
- Mother still has household chores to do, may feel under pressure, responsibility of other child
- Hospital not close by, need to get ambulance, too far – endangers baby

All other points will be given credit

[0] is awarded for a response not worthy of credit

Level 1 ([1]–[3])

Overall impression: Basic

- List of points, no or little explanation.
- Shows basic understanding of home birth.
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: Competent

- **At least 3 points explained**, not all may be fully explained, should include some advantages and disadvantages of home birth.
- Competent explanations included which show clear understanding.
- Quality of written communication is competent.

Max [4] if response does not include evaluation

Level 3 ([7]–[9])

Overall impression: Highly Competent

- **4–5 points fully explained**, must include range of advantages and disadvantages of home birth.
- Highly competent evaluation included which show excellent understanding
- Quality of written communication is highly competent.

(1 × [9])

[9]

9

AVAILABLE MARKS

8 Family planning or birth control is taking action to prevent falling pregnant. Evaluate the following family planning or birth control methods.

- Intrauterine device IUD or Coil
- Male condom

Answers may address the following points:

Intrauterine device IUD or Coil

Advantages

- More than **99%** effective
- This device makes it difficult for sperm to reach an egg and survive. It can also stop a fertilised egg from being able to implant itself
- It protects against pregnancy for 5 to 10 years
- IUD works straight away
- Most women can use it
- There are no hormonal side effects, such as acne, headaches or breast tenderness
- It is safe to use if breastfeeding
- Can get pregnant immediately when IUD is removed
- It is not affected by other medicines
- Does not have to be taken each day like the pill

Disadvantages

- Periods may become heavier, longer or more painful
- It doesn't protect against STI's
- It may lead to a pelvic infection if not treated
- The IUD can move and sometimes come out
- Can be uncomfortable when the IUD is being put in
- Doctor needs to fit it and remove it

Male condom

Advantages

- This is **98%** effective if used correctly
- The male takes responsibility for contraception
- They help to protect both partners from STI's
- There are no medical side effects from using a condom
- Only need to use them when having sexual intercourse

- Don't require advance planning, clinic visits or prescription
- Inexpensive
- Readily available
- Have minimal side effects

Disadvantages

- Condoms can split or tear if not used properly
- Some people may be allergic to latex
- Condoms can't be used with oil based lubricants only water based lubricants
- Expensive if used regularly/not everyone can afford.

Only award if they haven't stated inexpensive as an advantage

[0] is awarded for a response not worthy of credit

Level 1 ([1]–[3])

Overall impression: Basic

- Limited range of points, not all explained.
- Shows basic knowledge and understanding relevant to the question. May only have advantages or disadvantages.
- Quality of written communication is basic.
-

Level 2 ([4]–[6])

Overall impression: Competent

- Shows good knowledge and understanding.
- Identifies and comments on some key points relevant to the question. Some evaluation evident.
- Quality of written communication is competent.

Maximum [4] if only one method has been answered.

Level 3 ([7]–[9])

Overall impression: Highly Competent

- Shows excellent knowledge and understanding.
- Identifies and comments on a wide range of key points relevant to the question. Highly competent evaluation evident.
- Quality of written communication is highly competent.

Maximum [4] awarded if evaluation does not include disadvantages.

(1 × [9])

[9]

9

Total

75

**AVAILABLE
MARKS**