



General Certificate of Secondary Education
January 2019

Home Economics: Child Development

Unit 1

assessing

Parenthood, Pregnancy and Childbirth

[GHC11]

TUESDAY 22 JANUARY, AFTERNOON

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

1 (a) Label the diagram of the male reproductive system

- (i) testes
 - (ii) penis
 - (iii) sperm tube/urethra
 - (iv) scrotum
- AO1 (4 × [1])

[4]

(b) Complete the table below:

- (i) vagina
- receives the penis during intercourse
 - where blood/period flows out of the body
 - forms part of birth canal/where baby comes out from
- All other valid points will be given credit
AO1 (1 × [1])

[1]

- (ii) ovary
- produces egg/egg released from here
 - stores egg
 - secretes hormones for menstruation/fertility/produces oestrogen (female sex hormone)
 - eggs mature here
- All other valid points will be given credit
AO1 (1 × [1])

[1]

- (iii) penis
- urine leaves body through it
 - enlarges/erects prior to intercourse
 - excretes sperm
 - enters vagina during intercourse
- All other valid points will be given credit
AO1 (1 × [1])

[1]

7

2 (a) Complete the following sentences:

- (i) obstetrician
- (ii) infertility
- (iii) 37 or 38
- (iv) APGAR

AO1 (4 × [1])

[4]

(b) What is an ectopic pregnancy?

- when a fertilised egg implants itself outside the womb, usually in one of the fallopian tubes
- an operation is needed to remove the embryo and repair the damage
- results in miscarriage

All other valid points will be given credit

AO1 (1 × [2])

[2]

(c) Discuss two factors that affect the decision to have a baby.

- **stable relationship**, pressure of sleepless night and added financial pressures, may argue more – relationship may suffer
- **financial considerations**, cost of equipment, lost or reduced wages due to maternity pay/leave, cost of childminding
- **career/job implications**, maternity leave could affect promotion prospects, reduced working hours will mean less money, mother may take extra leave to be with baby and go back to less hours and perhaps less responsibility, less chance of promotion, less money
- **commitment**, are both parents committed to looking after the baby 24 hours a day, will both parents be willing to give up part of their social life, wages, is their relationship strong enough to cope with stress of baby and less time as a couple
- **available support**, are family and friends nearby to give advice and babysit, can they get financial support from family, do they have friends with babies who can give them advice
- **space** available in the house, do they have enough space for a pram and nursery, will they need to move house, what will it cost, do they live in an apartment – does it have a lift for the pram, will they need to move to a house
- do the couple **share the same beliefs, morals, culture**, how will it affect the baby
- age – couple may be young or old, may have no experience/have medical issues

All other valid points will be given credit

(2 × [2])

[4]

10

- 3 (a) Antenatal care is important for a pregnant woman.
Explain why the following are carried out on pregnant women at the Antenatal Clinic.

(i) **Urine test**

Answers may address the following points:

- protein – check for bladder, kidney infection
- protein (albumin) present/risk pre-eclampsia – dangerous for mother and baby
- sugar (glucose) present/indicates (gestational) diabetes
- ketones present/indicates dehydration due to excessive morning sickness, vomiting
- confirm pregnancy = [0]

All other valid points will be given credit

(1 × [2])

[2]

(ii) **Blood test**

Answers may address the following points:

- blood group of mother, may need blood transfusion if haemorrhage (heavy bleeding)
- rhesus factor negative blood group will be identified – women with rhesus negative blood need extra care to reduce risk of rhesus disease/mother will need injection to prevent production of antibodies that harm baby
- HIV/hepatitis B/syphilis identified, reduces risk of passing an infection to baby, partner or family member. Hospital can prepare for dealing with baby at birth
- gestational diabetes can be identified by blood glucose test, can cause premature birth, pre-eclampsia, stillbirth
- haemoglobin levels (iron) identified, low levels indicate anaemia which can cause tiredness in pregnancy

All other valid points will be given credit

(1 × [2])

[2]

(b) What is a breech birth?

Answers may address the following points:

- a more difficult birth/may need assisted delivery
- when a baby is born bottom first instead of head first/or lying sideways
- most breech births require a caesarian section as it is safer than a vaginal birth/obstetrician will be present at birth

All other valid points will be given credit

(1 × [2])

[2]

(c) Explain why pregnant women are advised not to smoke during pregnancy.

Answers may address the following points:

- harmful chemicals cross the placenta into baby's blood, circulated round baby's body
- nicotine in cigarettes makes baby's heart beat faster
- carbon monoxide in cigarette smoke takes place of oxygen in blood, baby receives less oxygen and growth and development is affected
- low birth weight babies with resulting developmental difficulties
- greater risk of miscarriage, stillbirth, premature birth
- baby can have slower growth rate
- thought to be a contributory factor in cases of SIDS
- high risk bronchitis and asthma
- greater risk morning sickness
- facial disfigurements
- mother, increased risk of lung cancer
- baby lung capacity affected
- risk ADHD, behaviour difficulties as a baby
- addicted = [0]

All other valid points will be given credit

(1 × [3])

[3]

9

4 (a) Explain what happens during the following stages of labour. (AO1, AO2)

(i) Stage 2

Answers may address the following points:

- cervix fully dilated to 10 cm
- uterus, cervix and vagina become continuous birth canal/mother gets urge to push
- contractions very strong pushing baby down birth canal
- baby's head emerges from vagina, crowning
- mucus is cleared from baby's nose and mouth to help breathing
- episiotomy (cut) may be needed to stop tearing
- shoulders come out of vagina, baby is born – include for full marks
- contractions = [0].

All other valid points will be given credit

(1 × [3])

[3]

(ii) Stage 3

Answers may address the following points:

- this is the shortest stage
- baby becomes separate person, breathing by themselves
- umbilical cord is clamped and cut
- contractions continue to push out placenta (afterbirth)
- midwife checks placenta to make sure nothing left behind
- injection of syntocin may be given to speed up delivery of afterbirth and prevent excessive bleeding
- episiotomy, if required, now stitched using local anaesthetic
- baby checked and given to mother to hold.

All other valid points will be given credit

(1 × [3])

[3]

(b) Explain the role of the following hormones during pregnancy and birth.

(i) PROGESTERONE

Answers may address the following points:

- helps prepare womb to receive fertilised egg
- controls menstrual cycle
- needed to maintain the state of pregnancy/pregnancy hormone
- helps implantation of fertilised egg in lining of uterus
- helps relax muscles in uterus to provide room for growing baby
- female sex hormone
- pregnancy hormone

(ii) PROLACTIN

Answers may address the following points:

- 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 points will be given credit

(1 × [4])

[4]

- (c) Katie is pregnant with her second baby.
Evaluate Katie's decision to have a home birth.

Advantages

- comfort of own bed, feel more relaxed, familiar surroundings, more comfortable and relaxed for birth
- 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.

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

NB: can only refer to hospital with reference to home birth

All other valid points will be given credit

For full marks candidates must have at least one advantage and one disadvantage plus one other explained point

(1 × [6])

[6]

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5 Discuss three methods of pain relief available during labour and birth.

Any three methods from:

Pethidine

Advantages

- quick working injection given into thigh/makes muscles relax/short term, wears off
- helps with pain, making contractions more bearable
- can be given by midwife, no doctor required/can be used for home birth
- can help mum relax

Disadvantages

- will cross placenta to baby
- can make baby sleepy/drowsy after birth, may affect breathing, may not be able to see if baby is unwell, any problems
- can make mum drowsy afterwards and may affect ability to feed, look after baby/may affect sucking reflexes
- can make mum feel sick or vomit
- cannot be given too close to birth, mother needs to be able to push/more useful during the early stages of labour

Epidural

Advantages

- stops the pain by blocking nerves that carry pain sensations to brain/can't feel pain of labour, numbs from waist down
- top-ups can be given throughout labour to maintain pain relief
- does not affect your mind, you still know what is happening
- can lower blood pressure if this is a problem
- can be topped up with local anaesthetic if you need a caesarean section
- mum will be calmer, benefits baby
- mobile epidural uses local anaesthetic, enables mother to move about

Disadvantages

- needs to be given by a doctor – anaesthetist/may not be available when in labour
- may not work at first/takes about 20 minutes to take effect
- mum has to stay in bed, unless hospital have mobile unit
- mum needs a catheter during and for short time afterwards/can be uncomfortable
- may need labour quickened by drip as it can also slow down labour
- may need to ease off epidural near birth or use forceps or suction if mum can't help push baby out/rely more on midwife
- small risk of nerve damage/back pain, headaches
- not always completely effective, disconcerting for mum
- mum may feel cheated, can't feel labour

Gas and Air/Entonox

Advantages

- mixture nitrous oxide and oxygen taken through mask or mouth piece
- mother in control of how much she is taking, making own decisions

- calms mother, helps her breathing as she has to take deep breaths/ concentrates mum on her breathing
- can be used throughout labour, at any stage
- does not cross placenta/does not affect baby
- can be organised easily by midwife, no doctor required
- no after effects for mum or baby

Disadvantages

- does not stop, suppress pain fully, may only be useful in early stages of labour
- some mums do not like idea of mask over mouth and nose
- can make mum feel sick, light headed
- not as useful during the second stage of labour when mum has to push baby out

TENS

Advantages

- small electrical impulses block pain messages to brain/releases endorphins
- no drugs involved/no risk, side effects to mum or baby, does not cross placenta
- mum in control, can increase or decrease
- can distract mum from pain in early stages of labour
- can be used at home, portable TENS available

Disadvantages

- little effect in later stages of labour, when pain is intense
- pads stuck to mum's back may be uncomfortable
- cannot be used by women with pacemakers or heart conditions as interferes with heart rhythms
- mum is unable to take bath or shower to relax/cannot be used during a water birth

Aromatherapy

Advantages

- no drugs, natural method
- relaxing for mum
- no medical staff needed, can be used for home birth

Disadvantages

- not effective in later stages of labour, limited pain relief
- some oils not suitable for pregnancy, need to be sure what is being used
- not all hospitals have someone with experience of aromatherapy, not all approve of it

Acupuncture

Advantages

- no drugs, natural method, suppresses energy flow
- fine sterilised needles placed at specific points to ease pain sensations
- relaxing for mum
- no medical staff needed, can be used for home birth
- encourages the production of endorphins, body's natural pain relieving chemicals.

Disadvantages

- needles in back may be uncomfortable, unable to lie down or sit comfortably
- need acupuncturist to put in needles

- not available in many hospitals
- may only help in early stages of labour

Waterbirth

Advantages

- muscles in back and abdomen relax
- encourages release of endorphins
- partner can enter birthing pool
- drug free
- can have gas and air as additional pain relief

Disadvantages

- possible risk of infection
- does not take away all pain
- midwife may not be able to monitor baby effectively
- cannot use TENS or epidural

Hypnobirthing/hypnotherapy

Advantages

- no drugs used/natural birth
- mother in a relaxed state/positive thinking
- mother in control
- no drugs passing to baby

Disadvantages

- if distressed mother cannot use technique
- does not take away all the pain

All other valid points will be given credit

Level of response

Level 1 ([1]–[3])

Overall impression: basic

- Limited range of points, not all explained
- Shows basic knowledge and understanding of at least one method of pain relief
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: competent

- Valid explained points for two to three methods of pain relief
- Shows good knowledge and understanding of each method
- Some discussion evident
- Quality of written communication is competent.

Level 3 ([7]–[9])

Overall impression: highly competent

- Wide range of valid well explained points for all three chosen methods of pain relief
- Shows excellent knowledge and understanding of each method
- Discusses all three methods competently
- Quality of written communication is highly competent.

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

(1 × [9])

[9]

9

- 6 A healthy diet during pregnancy is essential.
Discuss the dietary requirements and current dietary recommendations for pregnant women.

Dietary Requirements

- Balanced diet + explanation
- Protein needed for growth and development of baby and mother's expanding body
- Calcium needed for teeth and bones. Baby's bones developing in womb need calcium. Mother needs calcium as baby uses mother's supply/ maintains woman's bone density
- Carbohydrates needed for energy. Mother needs extra energy to carry extra weight when pregnant. Starchy carbohydrates slowly release energy to make mother feel fuller longer, less likely to eat more and so keep weight controlled. Dietary fibre prevents constipation which is common in pregnancy
- Fats needed for energy, need to eat less fat to ensure does not gain weight which will be difficult to lose after birth. Extra weight can put strain on heart
- Iron needed in pregnancy to prevent anaemia which causes tiredness
- Vitamin C needed to help absorption of iron/form healthy placenta
- Eat plenty of fruit and vegetables, gives mother vitamins and minerals to fight disease and improve overall health of mother. Contains dietary fibre to help prevent constipation which is common in pregnancy
- Foods high in NSP/high satiety value/feeling of fullness less likely to snack between meals. Helps to maintain a healthy weight
- Include foods high in folic acid, e.g. green leafy vegetables, wholemeal cereals and bread, to help prevent spina bifida/neural tube defector
- Vitamin C: antioxidant – helps immune system, aids the absorption of iron
- Vitamin D: helps absorb calcium to form strong bones/skeleton in foetus
- Vitamin A: necessary for eyesight

Current Dietary Recommendations

- **Eat less sugar**, if not used as energy converted to body fat which puts strain on heart. Too much sugar causes tooth decay
- **Eat less fat**, to ensure does not gain too much weight which will be difficult to lose after birth. Extra weight can put strain on heart and have long term health risks
- **Limit salt intake**, avoid foods high in salt, read food labels, use herbs instead of salt to flavour foods. Diet high in salt can increase blood pressure/hypertension
- **Ensure 5 a Day** fruit and vegetables/follow Eatwell Guide + provides mother with vitamins and minerals to fight disease and improve overall health. Fruit and vegetables contain NSP/dietary fibre to help prevent constipation which is common in pregnancy
Maximum 1 point • avoiding foods, e.g. eggs/paté
- Don't skip breakfast – fibre/less snacking
- Drink more water
- Caffeine: speeds up heart rate energy drinks – high in sugar

All other valid points will be given credit

Level of response

Level 1 ([1]–[3])

Overall impression: basic

- Limited range of points, little or no explanation
- Shows basic knowledge and understanding
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: competent

- Competent range of explained points including both aspects of question for [6]
- Shows competent knowledge and understanding related to pregnancy
- Quality of written communication is competent
- Maximum [5] if only discussed one aspect.

Level 3 ([7]–[9])

Overall impression: highly competent

- Highly competent range of explained points including both aspects of question
- Shows highly competent knowledge and understanding related to pregnancy
- Quality of written communication is highly competent.

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

(1 × [9])

[9]

9

Total

60

**AVAILABLE
MARKS**