**Q1.**          Hormones control the menstrual cycle.

(a)     Name **two** of the hormones involved in the menstrual cycle.

1 .....................................................................................................................

2 .....................................................................................................................

**(2)**

(b)     Hormones are used in some types of contraception.

Complete the sentence.

When used as contraceptives, hormones stop ...................... becoming mature.

**(1)**

(c)     There are several ways of using hormones as contraceptives.

These include:

•        taking a contraceptive pill each day for 21 days of the menstrual cycle

•        using a contraceptive implant.

The contraceptive implant is put under the skin of a woman’s arm.

The implant releases contraceptive hormones for three years before the implant needs to be replaced.

(i)      Suggest **one** advantage of using this implant rather than taking contraceptive pills.

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**(1)**

(ii)     Suggest **one** disadvantage of using this implant rather than taking contraceptive pills.

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**(1)**

**(Total 5 marks)**

**Q2.**The human body produces many hormones.

(a)     (i)      What is a *hormone*?

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**(1)**

(ii)     Name an organ that produces a hormone.

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**(1)**

(iii)    How are hormones transported to their target organs?

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**(1)**

(b)     Describe how the hormones FSH, oestrogen and LH are involved in the control of the menstrual cycle.

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**(3)**

**(Total 6 marks)**

**Q3.**          The graph shows changes in the levels of three hormones in a menstrual cycle.



(a)     What does the graph suggest the stimuli might be which cause the egg to be released?

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**(3)**

(b)     One type of contraceptive pill keeps the level of progesterone high for most of the cycle.

Suggest how this might work.

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**(2)**

(c)     Outline **two** arguments for and **two** against using hormones as contraceptives.

For:             1 ..............................................................................................................

  ..............................................................................................................

2 ..............................................................................................................

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Against:       1. .............................................................................................................

..............................................................................................................

2 ..............................................................................................................

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**(4)**

**(Total 9 marks)**

**Q4.**          A woman wants to have a baby. She has been told that her body is not making and releasing eggs. However she has thousands of cells which could develop into them. A possible treatment is to give her a hormone called FSH. This hormone will start the development of these cells.

          Once the eggs have developed, explain what causes their release.

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**(Total 4 marks)**

**M1.**          (a)     any **two** from:

•        FSH

*do* ***not*** *accept FHS*

•        LH

*do* ***not*** *accept LSH*

•        oestrogen

*allow progesterone as alternative to any hormone*

**2**

(b)     egg(s) / egg cell(s) / ova

*do* ***not*** *accept ovaries*

*do* ***not*** *accept fertilised eggs*

**1**

(c)     (i)      any **one** from:

*ignore faster*

•        don’t have to take (pill) every day

*ignore side effects*

•        can’t forget to take

*ignore cost*

•        more reliable

•        lasts 3 years / lasts longer

•        hormone level in blood more constant

**1**

(ii)     any **one** from:

*ignore cost*

•        eg painful (to insert) / uncomfortable / causes rash

*ignore side effects unqualified*

•        woman can’t take it out

•        more difficult to stop treatment

•        needs to be removed if woman decides to become pregnant

*allow have to wait three years to become pregnant*

**1**

**[5]**

**M2.**         (a)      (i)      any **one** from:

•        chemical messenger / message

*allow substance / material which is a messenger*

•        chemical / substance produced by a gland

*allow material produced by a gland*

•        chemical / substance transported to / acting on a target organ

•        chemical / substance that controls body functions

**1**

(ii)     gland / named endocrine gland

*brain alone is insufficient*

*allow phonetic spelling*

**1**

(iii)    in blood / plasma **or** circulatory system **or** bloodstream

*accept blood vessels / named*

*do* ***not*** *accept blood cells / named*

**1**

(b)     *each hormone must be linked to correct actionapply list principleignore the gland producing hormone*

FSH stimulates oestrogen (production) / egg maturation / egg ripening

*ignore production / development of egg*

**1**

oestrogen inhibits FSH

*allow oestrogen stimulates LH / build up of uterine lining*

**1**

LH stimulates egg / ovum release / ovulation

*accept LH inhibits oestrogen
accept LH controls / stimulates
growth of corpus luteum
ignore production of egg*

**1**

**[6]**

##

          (a)     LH or FSH (only one mentioned)

*gains 1 mark*

**but**LH and/or FSH (both mentioned)

*gains 2 marks*

          rises (sharply)

*for 1 further mark*

**3**

(b)     FSH or LH level kept low
no ovulation/egg not released

*for 1 mark each*

**2**

(c)     for:
very effective/prescribed/
personal preference/convenient/
promote family values

*any two for 1mark each*

against:
upset internal environment
named side effects (allow two)
religious belief
no protection against VD/AIDS
long-term effects
moral belief

*any two for 1 mark each*

**4**

**[9]**

**M4.**          oestrogen produced

*gains 1 mark*

**but**                N.B. sequence important hereoestrogen produced by ovary

*gains 2 marks*

          LH produced

*gains 1 mark*

          **but**LH produced by pituitary

*gains 2 marks*

LH causes egg release

*for1 mark*

**[4]**