

Higher Combined version — Higher Tier (★) included; Separate-only (◆) removed.

**Q1. Describe the roles of FSH, oestrogen, LH and progesterone in the menstrual cycle.**

[4 marks]

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**Q2. Explain how the combined contraceptive pill prevents pregnancy.**

[3 marks]

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★ HIGHER TIER

**Q3. ★ Describe the process of IVF. Evaluate it as a treatment for infertility.**

[4 marks]

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**Total: 11 marks**

## Q1 (4 marks)

*Describe the roles of FSH, oestrogen, LH and progesterone in the menstrual cycle.*

- FSH (pituitary): stimulates follicle/egg to mature; stimulates oestrogen production [1]
- Oestrogen (ovary): thickens uterus lining; at high levels triggers LH release; inhibits FSH [1]
- LH surge (pituitary): triggers ovulation (release of mature egg) on day ~14 [1]
- Progesterone (corpus luteum): maintains uterus lining; falls if no pregnancy → menstruation → new cycle [1]

## Q2 (3 marks)

*Explain how the combined contraceptive pill prevents pregnancy.*

- Pill contains oestrogen and/or progesterone [1]
- These inhibit FSH release from the pituitary gland [1]
- Without FSH, no egg matures and no ovulation occurs → pregnancy cannot happen [1]

## Q3 (4 marks) [★ HT]

*★ Describe the process of IVF. Evaluate it as a treatment for infertility.*

- FSH given to stimulate multiple egg production → eggs collected → fertilised by sperm in laboratory → embryo cultured 2-3 days → implanted in uterus [2]
- Benefit: allows couples with infertility (e.g. blocked fallopian tubes, low sperm count) to have biological children [1]
- Limitation: low success rate (~25-30% per cycle), expensive, multiple embryos created (ethical issue), multiple births risk [1]