

Question number	Answer	Notes	Marks
1 (a)	1. larger (petals); 2. colour; 3. enclosed anther / enclosed stamens / shorter stamen / shorter filament; 4. enclosed stigma / enclosed carpels / shorter style / stigma not feathery; 5. nectary;	ignore amount of pollen or nectar allow converse for wind-pollinated for all Mps ignore attractive / smell / sticky as not structures	3
(b)	A petal / petals / corolla;		1
	B anther;		1
	C filament;		1

(c)	<ol style="list-style-type: none"> 1. stigma; 2. pollen tube grows (down style); 3. into ovule / ovary; 4. enters via micropyle; 5. (male) nucleus / (pollen grain) nucleus / male gamete; 6. fertilisation / fuse / join / eq; 7. ovum / egg / (female) nucleus / female gamete; 8. ovule becomes seed; 9. ovule wall becomes seed coat / testa; 10. ovary becomes fruit; 	allow if shown on clearly labelled diagram	5
-----	--	--	---

Total 11 marks

Question number	Answer	Notes	Marks																		
2 (a)	1. large (petals); 2. coloured / bright / white (petals) / eq; 3. scent / smell; 4. <u>nectar</u> / <u>nectary</u> ;		3 max																		
(b)	<table border="1" data-bbox="510 576 1211 1203"> <thead> <tr> <th></th> <th>In flowering plants</th> <th>In mammals</th> </tr> </thead> <tbody> <tr> <td>female gametes are made in the</td> <td>ovule;</td> <td>ovary;</td> </tr> <tr> <td>male gametes are made in the</td> <td>anther</td> <td>testes;</td> </tr> <tr> <td>gametes are brought together by</td> <td>pollination</td> <td>copulation;</td> </tr> <tr> <td>fertilisation takes place in the</td> <td>ovule</td> <td>fallopian tube;</td> </tr> <tr> <td>embryo develops in the</td> <td>seed</td> <td>uterus;</td> </tr> </tbody> </table>		In flowering plants	In mammals	female gametes are made in the	ovule;	ovary;	male gametes are made in the	anther	testes;	gametes are brought together by	pollination	copulation;	fertilisation takes place in the	ovule	fallopian tube;	embryo develops in the	seed	uterus;		5
	In flowering plants	In mammals																			
female gametes are made in the	ovule;	ovary;																			
male gametes are made in the	anther	testes;																			
gametes are brought together by	pollination	copulation;																			
fertilisation takes place in the	ovule	fallopian tube;																			
embryo develops in the	seed	uterus;																			

Question number	Answer	Notes	Marks
2 (c)	1. used in growth / used in repair / used in asexual reproduction / eq; 2. no genetic variation / clones /genetically identical cells produced /exact genetic copies of cells / eq; 3. chromosome number stays the same / eq; 4. one round of division / 2 cells produced; 5. diploid cells produced / not used to make gametes;	Allow converse answers for meiosis	3 max
(d)	1. same <u>colour</u> / no <u>colour</u> variation / same phenotype / look the same / all identical / same characteristics / eq; 2. no genetic variation / clones / alleles the same; 3. quicker production; 4. production all year round	Ignore more produced / profit	2 max
			Total 13 Marks

Question number	Answer	Notes	Marks												
3 (a)	<table border="1"> <thead> <tr> <th>Order</th> <th>Name of stage</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>gametes;</td> </tr> <tr> <td>2</td> <td>zygote</td> </tr> <tr> <td>3</td> <td>embryo</td> </tr> <tr> <td>4</td> <td>foetus;;</td> </tr> <tr> <td>5</td> <td>baby</td> </tr> </tbody> </table>	Order	Name of stage	1	gametes;	2	zygote	3	embryo	4	foetus;;	5	baby	<p>1 mark for gametes</p> <p>1 mark for baby</p> <p>2 marks for zef</p> <p>1 mark for zfe or ezf or fez</p>	4
Order	Name of stage														
1	gametes;														
2	zygote														
3	embryo														
4	foetus;;														
5	baby														
(b) (i)	connection between <u>atria</u> / eq; connection between arteries / pulmonary artery and aorta;		2												
3 (c) (i)	XY;		1												
(ii)	46 or 23 <u>pairs</u>		1												

TOTAL 8 MARKS

Question number	Answer	Notes	Marks
4 (a) (i)	P oviduct / fallopian tube; Q ovary; R uterus / womb; S vagina;	allow ovaries allow uterine wall / uterine lining	4
(b) (i)	O from oestrogen peak to trough;		1
(ii)	M from start until oestrogen line levels at start of cycle / from where progesterone peaks to end of cycle		1
(iii)	1. grows / thickens / build up / repaired / eq; 2. maintained / remains / eq; 3. breakdown / loss / shedding / eq; 4. not broken down if pregnant / egg fertilised / egg implanted / eq;	allow vascularisation	Max 3

Question number	Answer	Notes	Marks
(c)	1. ovulation may vary within one woman / ovulate on different day each month / length of cycle varies / cycle can be irregular / ovulate early / ovulate late / error in calculating days / hard to tell when ovulation occurs / eq; 2. sperm survive;		2
(d)	1. <u>secondary</u> sexual characteristics; 2. start menstruation / ovulation / periods / eq; 3. hips widen; 4. growth of breasts; 5. growth of pubic hair / body hair; 6. change distribution of fat;	5. ignore ref to hair alone	Max 3

Total 14 marks

Question number	Answer	Notes	Marks
5 (a)	<u>mitosis</u> ;		1
(b)	1. A produces <u>two</u> daughter cells; 2. A has <u>one</u> round of division / A splits <u>once</u> ; 3. A produces cells with four chromosomes / diploid cells / full set of chromosomes / eq;	allow converse for B use of 'it' assumes A ignore ref to size of cells ignore identical / varied as not shown in the diagram	Max 2

Question number	Answer	Notes	Marks
5 (c)	A any correctly named plant part; B anther / ovule / ovary;	eg growing region tip / stem / root / buds / leaf / embryo / cuttings / callus / bulb / pollen tube	2