

Question	Answer			Marks	AO Element	Notes	Guidance
1	letter from diagram	name	க	6			
	V	sperm duct ;	விந்தணுப் பைந்தொண்டி				
	Z ;	urethra	விந்தணு வெளியேற்ற வாய்				
	Y	penis ;	பெண் உறுப்பு				
	T ;	prostate gland	விந்தணு வெளியேற்ற வாய்				
	W	scrotum					



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5	43 ;	1			
6	<b>A</b> cytoplasm ; <b>B</b> jelly coat ; <b>C</b> (cell) membrane ; <b>D</b> nucleus ; <b>E</b> flagellum ;	5			
7	<b>A</b> ; <b>D</b> ; <b>B</b> ;	3			
8	ovary circled ; <b>W</b> written (with a label line ending) on an oviduct ; <b>X</b> written (with a label line ending) inside the, uterus / uterus lining ;	3			
9	lipid / fat / oil / carbohydrate / glycogen ;	1			
10	<i>any four from:</i> breaking of the amniotic sac / AW ; contraction of the (muscles in the) <u>uterus</u> (wall) ; dilation of the cervix / AW ; passage through the vagina ; tying / cutting, the umbilical cord ; delivery of the afterbirth ;	4			

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11	<b>P</b> - testis ; <b>S</b> - <u>zygote</u> ; <b>Q</b> - meiosis ; <b>R</b> - fertilisation ; <b>T</b> - mitosis ; <b>U</b> - implantation ;	<b>6</b>			
12	1 diffusion / exchange ; 2 amino / fatty ; 3&4 ;; <i>max. two from:</i> glucose (named) vitamins (named) minerals / ions / salts glycerol fatty acids amino acids 5 passive ; 6 antigens ; 7 pathogen / (micro)organism ;	<b>7</b>		<b>A</b> fatty acids or amino acids only once, i.e. MP2 OR MP3/4	
13	to prevent more than one sperm fertilising the egg / stops other sperm entering ;	<b>1</b>			

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14	letter in diagram	function	4		one mark for each correct row	
	A	secretes fluid for sperm to swim in				
	B	produces sperm				
	C	tube which carries urine and sperm				
	D	tube which carries the sperm to the urethra				
15	egg cell / ovum / ova ;		1			
16	oviduct ;		1			

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17	<div><div><div>A</div><div>B</div><div>C</div><div>D</div></div><div><div>gland that secretes fluid for sperm to swim in</div><div>produce sperm</div><div>sac that holds the testes</div><div>tube carrying semen and urine</div><div>tube carrying sperm to urethra</div></div></div>	4		one mark for each correct line <b>R</b> each additional line	
18	<div><div>F</div><div>J</div><div>G</div><div>E</div><div>H</div><div>D</div></div>	3		one mark for <b>F</b> at the start and <b>D</b> at the end one mark for <b>G</b> before <b>E</b> one mark for <b>E</b> before <b>H</b>	

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19	uterus wall ; cervix ; amniotic sac ; vagina / cervix ; umbilical cord ; afterbirth ;	6			
20	tick in the box next to 'a ball of cells' ;	1		R additional ticks	
21	<i>any four from:</i> rubella is caused by a virus ; (virus) can cross the placenta ; (virus) can affect embryo / fetus ; can cause serious, disease / damage / death, to baby / offspring ; vaccination stimulates, long-lasting / active, immunity (in the mother) ; (immunity gained) before they become pregnant ; AVP ;	4			

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22	lumen or wall of left or right oviduct labelled <b>Q</b> ; area of uterus with darkest shading labelled <b>R</b> ; ovary labelled <b>S</b> ; vagina labelled <b>T</b> ;	<b>4</b>			
23	<i>any three from:</i> ref. to making new cells after fertilisation ; making membranes ; (protein for) making enzymes ; making new, (named) cell structures / cytoplasm ; (fat / protein) provide / source of, energy ; energy for, cell division / mitosis / growth (of cell) / metabolism / AW ;	<b>3</b>			



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24	<p>sperm / male gametes are,  <b>1</b> deposited in, <b>S</b> / vagina OR travel through, <b>R</b> / cervix ;</p> <p><b>2</b> egg / sperm / gametes, travel, to <b>P</b> / oviduct ;</p> <p>enzymes (from acrosome /  <b>3</b> sperm) digest jelly coat (around egg) ;</p> <p>fertilisation OR fusion of  <b>4</b> <u>nuclei</u>, of sperm / male gamete, and of female gamete / egg (cell) ;</p> <p><b>5</b> formation of <u>diploid</u> zygote ;</p> <p>zygote / embryo, travels,  <b>6</b> down <b>P</b> / oviduct OR zygote / embryo, travels to, <b>T</b> / uterus ;</p> <p>mitosis / cell division / growth  <b>7</b> / develop (zygote / embryo / fetus) ;</p> <p><b>8</b> ball of cells / embryo, implants in, <b>T</b> / uterus ;</p> <p><b>U</b> / placenta / <b>V</b> / umbilical  <b>9</b> cord (between mother, and fetus) ;</p> <p><b>0</b></p>	<b>6</b>			

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	<p>delivery / diffusion, of (named) resource / excretion of (named) waste, via <b>U</b> / placenta / <b>V</b> / umbilical cord ;</p> <p>AVP ; e.g.  <ul style="list-style-type: none"> <li>• named sperm adaptation for swimming e.g. mitochondria</li> <li>• <b>Q</b> / ovary / <b>U</b> / placenta,</li> </ul> <b>1</b> releases progesterone (to maintain lining)  <ul style="list-style-type: none"> <li>• <i>ref to</i> (cell) specialization / complexity, of fetus / (named) organs (in fetus)</li> </ul> </p>				
25	<p><i>any four from:</i>            chromosomes / DNA,            duplicate(s) / replicate(s) ;            chromosomes separate ;            mitosis / nuclear division ;            (zygote / fertilised egg) divides            / splits (into two) ;            (nuclear / cell) division / mitosis,            repeated / AW ;            forming a, ball / cluster, of cells            ;            cells are genetically identical ;            AVP ; e.g. cell, specialisation /            differentiation / ref. to stem            cells</p>	4			

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26	<i>any two from:</i> hardens / changes, after fertilisation / entry of sperm ; prevents more sperm entering ; AVP ;	<b>2</b>			
27	<b>X</b> – oviduct ; <b>Y</b> – uterus ; <b>Z</b> – cervix ;	<b>3</b>			

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28 letter from image	name	function		each letter linked to the correct name and function  10 correct lines = 5 marks  8 or 9 correct lines = 4 marks  6 or 7 correct lines = 3 marks  4 or 5 correct lines = 2 marks  2 or 3 correct lines = 1 mark	
J	penis	carries sperm cells away from the testis			
K	prostate gland	delivers sperm into the vagina			
L	scrotum	holds the testes and keeps them cool			
M	sperm duct	makes the fluid that sperm cells swim in			
N	testis	where sperm are made			
	..... .....				

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29	<p><i>any two from:</i></p> <p>across the placenta ;</p> <p>by diffusion ;</p> <p>from the mother's blood to the fetus's blood ;</p> <p>enter fetus from umbilical cord / umbilical blood vessels ;</p>	<b>2</b>			
30	oviduct ;	<b>1</b>			
31	<p><i>any two from:</i></p> <p>water needed to, produce breast milk / stay hydrated / AW ;</p> <p>alcohol can pass to the baby in breast milk / AW ;</p> <p>alcohol can harm / delay development of, baby / AW ;</p> <p>AVP ;</p>	<b>2</b>			

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32	<p><i>any four from:</i></p> <p>contains antibodies / ref. to colostrum / provides protection against,</p> <p>pathogens / diseases / microorganisms ;</p> <p>provides passive immunity ;</p> <p>nutrient requirements met / change with age / change with development ;</p> <p>easy to digest / AW ;</p> <p>no additives / less risk of allergies ;</p> <p>sterile / less risk of infection / AW ;</p> <p>is at, body / correct, temperature ;</p> <p>no preparation / always available / convenient ;</p> <p>bonding with mother / AW ;</p> <p>free / cheap ;</p> <p>idea of volume is controlled / no over-feeding ;</p> <p>AVP ;</p>	4			

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33	<p><i>any four from:</i></p> <p>ref. to acrosome / (digestive) enzymes, are released (from sperm) ;</p> <p>jelly coat is digested (by enzymes) ;</p> <p>fusion of <u>nuclei</u> (of gametes) / fertilisation ;</p> <p>to form a (diploid) zygote ;</p> <p>jelly coat hardens (after fertilisation) ;</p> <p>zygote moves, along oviduct / towards uterus ;</p> <p>cell division / mitosis (after formation of zygote) ;</p> <p>AVP ; e.g. use of energy stores from egg cell (for mitosis)</p>	4			
34	<p><i>any two from:</i></p> <p>flagellum ;</p> <p>ref. to enzymes ;</p> <p>AVP ;</p>	2			

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35	<b>E ;</b> <b>C ;</b> <b>B ;</b> <b>C ;</b> <b>A ;</b>	<b>5</b>			



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36	<table><tr><td>C</td><td>amniotic fluid</td><td>protects fetus from mechanical damage / maintains temperature / fetal drinking ;</td></tr><tr><td>E ;</td><td>cervix ;</td><td>dilates during birth</td></tr><tr><td>A</td><td>placenta</td><td>supplies, nutrients / removes waste / acts as a barrier against toxins or pathogens ;</td></tr><tr><td>F</td><td>umbilical cord</td><td>transfers (named) substances between, mother, placenta, and fetus ;</td></tr><tr><td>B ;</td><td>uterus wall</td><td>contracts during birth</td></tr></table>			C	amniotic fluid	protects fetus from mechanical damage / maintains temperature / fetal drinking ;	E ;	cervix ;	dilates during birth	A	placenta	supplies, nutrients / removes waste / acts as a barrier against toxins or pathogens ;	F	umbilical cord	transfers (named) substances between, mother, placenta, and fetus ;	B ;	uterus wall	contracts during birth	6			
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37	less oxygen (delivered to the fetus) / increased heart rate / low birth weight / premature birth / birth defects / SIDS or cot death / stillbirth / increased risk of asthma / AVP / AW ;	1			
38	mouse ;	1			
39	<i>any two from:</i> ref. to sperm and egg / male and female gametes ; fusion of <u>nuclei</u> ; AVP: e.g. ref to enzymes dissolving jelly layer / change in jelly coat once one sperm has entered / AW ;	2			
40	energy ; jelly ; fertilisation ;	3			
[Total: 127]					