

1.	Cold virus – Spread by droplet infection;	[1]	4
	Salmonella – Prevented by cooking food thoroughly;	[1]	
	Fungus – Cause of athlete's foot;	[1]	
	HIV – Spread by sharing dirty needles or sexual intercourse;	[1]	

2.	Virus; [1]		5
	Vaccination; [1]		
	Fungus; [1]		
	Salmonella; [1]		
	Sexual intercourse; [1]	[5]	

3.	(a) Similarity – Both have genetic material;	[1]	AVAILABLE MARKS
	Difference – (Any one from):		
	TB has double stranded genetic material, HIV single stranded;		
	TB has cell wall, HIV has protein layers;	[1]	
	TB has plasmids, HIV does not;	[1]	
(b) (Spread in saliva) by coughing/sneezing ;	[1]		
(c) Spread – Sexual intercourse /bodily fluids exchanged/blood to blood contact (described);	[1]		
Prevented – Condom/abstinence/screening blood;	[1]	5	

4.	(a) Protein;		[6]
	produced by lymphocyte/white blood cell (in response to antigen);		
	complementary to/fits antigen;	[2]	
(b) 3.1 < 3.2;		[2]	
6.8;			
(c) After 35 days antibody level falls below 4/immune threshold (described);		[2]	
Volunteer could catch the disease;			

5.	(a) Antigen;	[1]	11
	(b) Active/acquired (not artificial unqualified);	[1]	
	(c) Produced in response to different/previous bacterial infections;	[1]	
	(d) Any three from:		
	Shape of antibody matches antigens/specific/complementary; [1]		
	Antibody attaches/binds to antigen/bacterium; [1]		
	Binds/clumps bacteria together; [1]		
	Prevents spread/reproduction/easier for phagocytes; [1]	[3]	
	(e) Phagocyte; [1] Reject: white blood cell		
	Engulfs bacteria/clumps of bacteria; [1]		
Digests; [1]	[3]		
(f) Any two from:			
Skin;			
Hairs/cilia;			
Mucous membranes;			
Tears/lysozyme;			
Stomach/vaginal acid;			
Blood clotting;	[2]		

6.	(a) (i) Florey; [1] Chain; [1]	[2] [1]	Old Spec
	(ii) Fungus;		
	(b) Sterilised/heat kills bacteria; Prevent entry of microbes; Prevent spread of infection;	[3]	
	(c) Antibiotic D; [1] 380 mm ² ; [1] Kills most bacteria; [1]	[3]	6 9

7.	(a) (After ban) more pubs have a lower concentration/less nicotine; Before ban most pubs (26) had over 401–500 arbitrary units; After ban most pubs (44) had 0–100 arbitrary units;	[3]	
	(b) Causes addiction; Affects heartbeat;	[2]	
	(c) Substance – Tar; Explanation – Causes lung cancer; Substance – Carbon monoxide; Explanation – Reduces oxygen transport;	[1] [1] [1] [1]	
	(d) Reduced freedom of choice;	[1]	10

8.	(a) Nicotine – causes addiction; Carbon monoxide – less oxygen carried in blood; Tar – causes lung cancer; (3 for [2], 2 for [1])	[2]	
	(b) Any two from: Ban smoking in public places/indoors; Make packaging plain/prevent display of cigarettes in shops; Education/public health intervention; Increase price of cigarettes;	[2]	4

9.	(a) (i) Accurate plots [2]; correct use of key [1];	[3]	AVAILABLE MARKS
	(ii) [Percentage treated] increases with age [up to 39]; [1] Then decreases; [1]	[2]	
	(b) more men; [1] 82% males and 56% females; [1]	[2]	7

10.	(a) (i)	Similarity – [AGE] Death from CHD increases with age;	[1]	5
		Difference – [GENDER] More men than women die from CHD;	[1]	
	(ii)	More women in population/lower population;	[1]	
(b)		Don't smoke (cigarettes); exercise (regularly); avoid stress; Reduce salt/sugar/fat/cholesterol/alcohol; (Any two)	[2]	

11.	(a) (i)	Uncontrolled/abnormal; cell division;	[2]	9
		(ii)	No capsule/cells migrating;	
	(b) (i)	Bars correctly drawn;	[2]	
		Labels and no spaces;	[1]	
	(ii)	Only a small number in age group/not cost-effective	[1]	
	(iii)	early detection; improves chances of successful treatment/can be treated before it spreads;	[2]	

12.	uncontrolled; [1] malignant; [1] capsule; [1] surgery; [1]	[4]	AVAILABLE MARKS
			4