

# JY-Paper I

PAPER CODE: 20780

Q.No.	Sub	Description	Marks
Q1A	i	FALSE	1
	ii	TRUE	1
	iii	FALSE	1
	iv	TRUE	1
Q1B	i	DEFINITION-ACTIVE SITE, ENZYMES-MADE OF AMINOACIDS , MODULATION OF CHARGE ON AMINOACIDS DUE TO PH CHANGES, 2 EG OF ENZYMES AND THEIR OPTIMUM PH	3
	ii	DEFINITION +ROLE IT PLAYS IN ACTIVE SITE FORMATION + Eg.	3
	iii	IUB NOMENCLATURE OF 4 NUMBERS AND WHAT THEY DEPICT	3
	iv	ACTIVE SITE- DEFINITION AND FACTORS AFFECTING CONFORMATION OF THE SAME	3
	v	THEORY AND WHY NOT ACCEPTED	3
	vi	PROTEINACEOUS, HIGH MOL WT, COLLOIDAL, NOT UTILISED, CATALYSES REACTIONS AT NORMAL PH & TEMP, OR ANY OTHER PROPERTY- ATLEAST 4 PROPERTIES	3
Q1C	i	IUB CLASSIFICATION- 6 CLASSES WITH REACTIONS CATALYSED AND EXAMPLE OF EACH CLASS	6
	ii	WHERE INHIBITOR BINDS, CHANGES IN KM AND VMAX WITH EG OF EACT TYPE	6
	iii	DERIVATION -0.5 MARKS FOR EACH STEP	6
	iv	TEMP; PH, COFACTOR/ COENZYME- 3 RELEVANT POINTS FOR EACH	6
Q2A	i	FALSE	1
	ii	TRUE	1
	iii	FALSE	1
	iv	TRUE	1
Q2B	i	DEFINITION + ANY 2 FUNCTIONS	1+2
	ii	2 RECEPTOR FOR WATER SOLUBLE AND INSOLUBLE HORMONE + 1 EXAMPLE OF EACH	2+1
	iii	ANY 3 FUNCTIONS	1 mark each
	iv	DEFINITION + 1 EXAMPLE OF EACH	1 mark each
	v	CHEMICAL NATURE + ANY 2 FUNCTIONS	1+2
	vi	ANY 3 FUNCTIONS	1 mark each
Q2C	i	FORMATION OF HORMONE RECEPTOR COMPLEX, ACTIVATION OF ADENYLYL CYCLASE, SYNTHESIS OF cAMP, PKA ACTIVATION, DEGRADATION OF cAMP.	1 mark each
	ii	MENSTRUATION, PROLIFERATIVE PHASE, SECRETORY PHASE + HORMONE LEVELS IN EACH PHASE + EVENTS IN THE UTERUS + DIAGRAM PREFERRED	1 mark each

	iii	ANY 6 FUNCTIONS	1 mark each
	iv	HYPOTHALAMUS, ANTERIOR & POSTERIOR PITUITARY, ADRENAL, THYROID GLANDS + HORMONES FROM EACH GLAND + TARGET ORGANS + DIAGRAM PREFERRED	6
<b>Q3A</b>	i	FALSE	1
	ii	FALSE	1
	iii	TRUE	1
	iv	TRUE	1
<b>Q3B</b>	i	DEFINITION + REPRESENTATION + SIGNIFICANCE	1 mark each
	ii	FORMULA OF PH + CALCULATION PH= 3.39 + FORMULA FOR PKW, POH = 10.602	3
	iii	EXPLANATION OF FORMOL TITRATION + REACTIONS OF SORENSON'S REACTION	2 +1
	iv	FORMULA FOR HENDERSON HASSELBALCH + ANS: PH 4.76	2+1
	v	[OH-] = 0.699, FORMULA PH= PKW - POH, [H+]= 2.58 OR KW= [H+] [OH-], HENCE [H+]= 5 × 10 <sup>-14</sup>	3
	vi	DEFINITION OF PH + PH SCALE + TWO EXAMPLES	1 mark each
<b>Q3C</b>	i	DIFFERENT IONIZATION FORMS OF ASPARTATE + TITRATION CURVE GRAPH + PKA VALUES AND PI VALUE	3+2+1
	ii	CLASSIFICATION (INTRACELLULAR AND EXTRACELLULAR) + EXPLANATION OF 1 EXAMPLE EACH	2+2+2
	iii	DERIVATION OF HENDERSON HASSELBALCH (ACID DISSOCIATION EQUILIBRIA, LAW OF MASS ACTION, REARRANGEMENT AND LOGARITHM, THREE DIFFERENT FORMS OF EQUATION), SIGNIFICANCE	1 mark for each step + 2 marks for significance
	iv	DIFFERENT IONIZATION FORMS OF ASPARTATE, TITRATION CURVE GRAPH, PKA VALUES AND PI VALUE	2+2+2
<b>Q4A</b>	i	DEFINITION + 1 RELEVANT POINT	2
	ii	DEFINITION + 1 RELEVANT POINT	2
	iii	DEFINITION + 1 RELEVANT POINT	2
	iv	ANY TWO FUNCTIONS	2
	v	DEFINITION + 1 RELEVANT POINT	2
	vi	DEFINITION + 1 RELEVANT POINT	2
	vii	DEFINITION + 1 RELEVANT POINT	2
<b>Q4B</b>	i	CONCEPT OF ACTIVATION ENERGY + DIAGRAM	5
	ii	ATLEAST 3 SPECIFICITIES FROM, GROUP, BOND, STEREOISOMERISM, SUBSTRATE OPTICAL- ANY 3 WITH 3 RELEVANT POINTS	5
	iii	STRUCTURE + ANY 4 FUNCTIONS	5
	iv	FORMATION OF RECEPTOR HORMONE COMPLEX, NEW mRNA DIRECTS PROTEIN SYNTHESIS, NEW PROTEIN ALTER CELL ACTIVITY + DIAGRAM PREFERRED	5
	v	DEFINITION + REPRESENTATION+ SIGNIFICANCE	2+1+2

vi LABELLED GRAPH + REPRESENTATION OF PKA AND PI VALUES + 2+2+1  
SIGNIFICANCE AND OTHER RELEVANT POINTS

