Specification of Biochemist charts Scientists Sr No:60

Sr No	Name of Chart	Item No	Specification
1	The Nobel Prize 1908 Ilya Ilyich Mechnikov and Paul Ehrlich "in recognition of their work on immunity"	01	Approximately 2 feet X2feet with details of Chart and photo
2	1929 Christiaan Eijkman "for his discovery of the antineuritic vitamin" Sir Frederick Gowland Hopkins "for his discovery of the growth-stimulating vitamins"	01	Approximately 2 feet X2feet with details of Chart and photo
3	1937 Albert von Szent-Györgyi Nagyrápolt "for his discoveries in connection with the biological combustion processes, with special reference to vitamin C and the catalysis of fumaric acid"	01	Approximately 2 feet X2feet with details of Chart and photo
4	1943 Henrik Carl Peter Dam "for his discovery of vitamin K" Edward Adelbert Doisy "for his discovery of the chemical nature of vitamin K"	01	Approximately 2 feet X2feet with details of Chart and photo
5	Ernst Boris Chain 1945: Physiology or Medicine. Chain was one of the first German scientists who, in the 1930s, sought refuge in England under the auspices of Gowland Hopkins. He arrived on 2nd April 1933 and became one of Hopkins' graduate students, working on phospholipids. In 1935 he moved to a position as a lecturer in Pathology at Oxford and it was there that, in collaboration with Howard Florey, he resolved the mechanism of action of penicillin. They shared the Nobel Prize with Alexander Fleming. 1945 Sir Alexander Fleming, Ernst Boris Chain and Sir Howard Walter Florey "for the discovery of penicillin and its curative effect in various infectious diseases"	01	Approximately 2 feet X2feet with details of Chart and photo
6	1947 Carl Ferdinand Cori and Gerty Theresa Cori, née Radnitz "for their discovery of the course of the catalytic conversion of glycogen" Bernardo Alberto Houssay "for his discovery of the part played by the hormone of the anterior pituitary lobe in the metabolism of sugar	01	Approximately 2 feet X2feet with details of Chart and photo
7	1950 Edward Calvin Kendall, Tadeus Reichstein and Philip Showalter	01	Approximately 2 feet X2feet with details of

	Hench "for their discoveries relating to the hormones of the adrenal cortex, their structure and biological effects"		Chart and photo
8	Richard Laurence Millington Synge 1952: Chemistry. After taking Part II Biochemistry Synge became a research student in the department under the supervision of Norman (Bill) Pirie – who, in 1936 with Frederick Bawden, J.D. Bernal and Isidor Fankuchen had shown that a virus can be crystallized and obtained X-ray patterns of tobacco mosaic virus. After obtaining his Ph.D. Synge moved to the Wool Industries Research Association, Leeds where he collaborated with Archer Martin, developing partition chromatography, a technique used in the separation mixtures of similar chemicals, that revolutionized analytical chemistry. They shared the 1952 Nobel Prize. Synge went on to analyse the amino-acid composition of gramicidin, work later used by Frederick Sanger in determining the structure of insulin.	01	Approximately 2 feet X2feet with details of Chart and photo
9	1953 Hans Adolf Krebs "for his discovery of the citric acid cycle" Fritz Albert Lipmann "for his discovery of co-enzyme A and its importance for intermediary metabolism" Hans Adolf Krebs 1953: Physiology or Medicine. Krebs was born in Hildesheim and by 1933 was working in Medical Clinic of the University of Freiburg, a post from which he was dismissed in April 1933. By that time, in collaboration with his research student Kurt Henseleit, he had published the details of the first cyclic metabolic pathway to be discovered – the 'urea cycle'. Hopkins, who kept up with the German literature, had described this work to The Royal Society in the winter of 1932 and, following the events of January 1933, he wrote to Krebs offering him sanctuary in Cambridge. Krebs arrived in July 1933, becoming a Demonstrator in the department, a post he held until 1935 when he moved to Sheffield. It was there in collaboration with William Johnson that he resolved the sequence of reactions that they called the "citric acid cycle". They measured the decline in metabolic rate of a suspension of fresh, minced pigeon breast and found that adding a salt of citric acid extended the 'life' of the sample by three-fold. They were able to show that a cyclical pathway was involved that with each turn regenerates citric acid and releases ATP – the cell's primary energy currency. On submitting their findings to Nature they were famously informed that the journal had enough material for the next 'seven	01	Approximately 2 feet X2feet with details of Chart and photo

	or eight weeks': their paper appeared in the Dutch journal Enzymologia. Krebs shared the Nobel Prize with Fritz Lipmann who had discovered co-enzyme A. Subsequently, working with Hans Kornberg, who was the Sir William Dunn Professor here from 1975 to 1995, he discovered the glyoxylate cycle, a variation of the citric acid cycle occurring in plants, bacteria, protists and fungi.		
10	1955 Axel Hugo Theodor Theorell "for his discoveries concerning the nature and mode of action of oxidation enzymes"	01	Approximately 2 feet X2feet with details of Chart and photo
11	1957 Daniel Bovet "for his discoveries relating to synthetic compounds that inhibit the action of certain body substances, and especially their action on the vascular system and the skeletal muscles"	01	Approximately 2 feet X2feet with details of Chart and photo
12	1958 George Wells Beadle and Edward Lawrie Tatum "for their discovery that genes act by regulating definite chemical events" Joshua Lederberg "for his discoveries concerning genetic recombination and the organization of the genetic material of bacteria"	01	Approximately 2 feet X2feet with details of Chart and photo
13	Frederick Sanger 1958 and 1980: Chemistry. Like Richard Synge before him, Sanger took Part II Biochemistry before starting a PhD in 1940 under the supervision of Bill Pirie. However, Pirie shortly moved to the Rothamsted Experimental Station in Harpenden to pursue his interest in viruses and Albert Neuberger became Sanger's supervisor for a project on the metabolism of the amino acid lysine. After obtaining his PhD in 1943 Sanger worked with the newly appointed Head of Department, Charles Chibnall, whose previous work on bovine insulin lead to Sanger determining the complete amino acid sequence of its two polypeptide chains. To this end he used fluorodinitrobenzene (now known as the 'Sanger Reagent') to label N-terminal amino group acids and refined the methods of Synge and Martin to fractionate mixtures of peptides in two dimensions (first by electrophoresis and then by chromatography) to generate what Sanger called 'fingerprints'. The finding that the two polypeptides of insulin had distinct	01	Approximately 2 feet X2feet with details of Chart and photo

	amino acid sequences carried the implication that every protein had a unique sequence. For this work he received his first Nobel prize in Chemistry in 1958. When the Medical Research Councilopened the Laboratory of Molecular Biology in 1962 Sanger moved from the Biochemistry Department to the new building opposite Addenbrooke's Hospital. He developed ways of sequencing RNA before turning to DNA and by 1975 he and Alan Coulson had come up with a way of generating short oligonucleotides with defined 3' termini that could be fractionated on a polyacrylamide gel. This lead to the first complete sequence of a DNA genome – of the bacteriophage φX174. By 1977 Sanger and colleagues had developed the 'dideoxy' chain-termination method for sequencing that permitted rapid and accurate sequencing of long stretches of DNA. For this he shared the 1980 Nobel prize in Chemistry in 1980 with Walter Gilbert and Paul Berg. This 'Sanger Method' was used to sequence human mitochondrial DNA (16,569 base pairs), bacteriophage λ (48,502 bps) and the worm genome ~100 million bps) before it was eventually used to sequence the entire human genome, a project that was completed in 2003. Sanger is one of only two people to have won two Nobel Prizes in the same category.		
14	1960 Sir Frank Macfarlane Burnet and Peter Brian Medawar "for discovery of acquired immunological tolerance" The Nobel Prize in Physiology or Medicine 1959 Severo Ochoa and Arthur Kornberg "for their discovery of the mechanisms in the biological synthesis of ribonucleic acid and deoxyribonucleic acid"	01	Approximately 2 feet X2feet with details of Chart and photo
15	1962 Francis Harry Compton Crick, James Dewey Watson andMaurice Hugh Frederick Wilkins "for their discoveries concerning the molecular structure of nucleic acids and its significance for information transfer in living material"	01	Approximately 2 feet X2feet with details of Chart and photo
17	1964 Konrad Bloch and Feodor Lynen "for their discoveries concerning the mechanism and regulation of the cholesterol and fatty acid metabolism"	01	Approximately 2 feet X2feet with details of Chart and photo
17	1965	01	Approximately 2 feet

	François Jacob, André Lwoff and Jacques Monod "for their discoveries concerning genetic control of enzyme and virus synthesis"		X2feet with details of Chart and photo
18	1967 Ragnar Granit, Haldan Keffer Hartline and George Wald "for their discoveries concerning the primary physiological and chemical visual processes in the eye"	01	Approximately 2 feet X2feet with details of Chart and photo
19	1968 Robert W. Holley, Har Gobind Khorana and Marshall W. Nirenberg "for their interpretation of the genetic code and its function in protein synthesis"	01	Approximately 2 feet X2feet with details of Chart and photo
20	1969 Max Delbrück, Alfred D. Hershey and Salvador E. Luria "for their discoveries concerning the replication mechanism and the genetic structure of viruses"	01	Approximately 2 feet X2feet with details of Chart and photo
21	1971 Earl W. Sutherland, Jr. "for his discoveries concerning the mechanisms of the action of hormones"	01	Approximately 2 feet X2feet with details of Chart and photo
22	1972 Gerald M. Edelman and Rodney R. Porter "for their discoveries concerning the chemical structure of antibodies" Rodney Robert Porter 1972: Physiology or Medicine. After graduating from the University of Liverpool Rodney Porter moved to Cambridge to become Fred Sanger's first Ph.D. student. His career was interrupted by the war in which he served with the Royal Army Service Corps, rising to the rank of Major. He was with the First Army in 1942 in the invasion of Algeria and with the 8th Army during the invasion of Silicy and then Italy. He eventually gained his Ph.D. in 1948 and went on to work at the National Institute for Medical Research, Mill Hill and St. Mary's Hospital Medical School before following in the footsteps of Rudolf Peters as Whitley Professor of Biochemistry at Oxford. At Mill Hill he worked on methods of protein fractionation in collaboration with Archer Martin who shared the 1952 Nobel Prize with Richard Synge. Porter went on to show that papain splits the immunoglobulin molecule into three pieces of equal size, two of which are identical and are able to bind antigen – the Fab (Fragment	01	Approximately 2 feet X2feet with details of Chart and photo

	antigen binding) pieces. The American Gerald Edelman had shown that peptide chains within IgG molecules were linked by both inter- and intra-chain disulphide bridges and Porter found there were four chains in each antibody molecule, two identical larger chains, the heavy chains, and two identical smaller, light chains. Porter and Edelman shared the 1972 Nobel Prize for resolving the structure and mode of action of antibodies. In the early 1980s Porter turned to the identification of the genes involved in the classical and the alternate pathways for complement activation but his participation in these studies was cut short but his tragic death in a road accident in September 1985.		
23	1974 Albert Claude, Christian de Duve and George E. Palade "for their discoveries concerning the structural and functional organization of the cell"	01	Approximately 2 feet X2feet with details of Chart and photo
24	1975 David Baltimore, Renato Dulbecco and Howard Martin Temin "for their discoveries concerning the interaction between tumour viruses and the genetic material of the cell"	01	Approximately 2 feet X2feet with details of Chart and photo
	1977 Roger Guillemin and Andrew V. Schally "for their discoveries concerning the peptide hormone production of the brain" Rosalyn Yalow "for the development of radioimmunoassays of peptide hormones"	01	Approximately 2 feet X2feet with details of Chart and photo
	1978 Werner Arber, Daniel Nathans and Hamilton O. Smith "for the discovery of restriction enzymes and their application to problems of molecular genetics"	01	Approximately 2 feet X2feet with details of Chart and photo
	Peter Dennis Mitchell 1978: Chemistry. Born in Mitcham, Surrey, Peter Mitchell came up to Cambridge in 1939 to read Natural Sciences and, after taking Part II Biochemistry, completed a Ph.D. in 1951 on the mode of action of penicillin. He held the post of Demonstrator at the Department of Biochemistry from 1950 to 1955 when he moved to Edinburgh University to set up the Chemical Biology Unit in the Department of Zoology. Illness led to his resignation in 1963 after which he supervised the restoration of Glynn	01	Approximately 2 feet X2feet with details of Chart and photo

	House near Bodmin, Cornwall, in part as a research laboratory. By the 1960s it had been established that ATP was the universal 'energy currency' of living cells but the mechanism by which electron transfer is coupled to ATP synthesis in oxidative phosphorylation and in photophosphorylation remained unknown. In 1961 Mitchell proposed a completely novel explanation based on an indirect). The two together form what Mitchell called theψpΔpH) and a difference in electric potential (Δinteraction between oxidizing and phosphorylating enzymes. He suggested that the flow of electrons through the enzymes of the respiratory or photosynthetic electron-transfer chains drives positively charged hydrogen ions (protons) across the membranes of mitochondria, chloroplasts and bacterial cells, generating a trans-membrane electrochemical proton gradient. The gradient consists of two components: a difference in hydrogen ion concentration ('protonmotive force'. The synthesis of ATP is driven by a reverse flow of protons down the gradient. Initially received with much scepticism, Mitchell's revolutionary 'chemiosmotic theory' has shaped our understanding of the mechanisms of biological energy conservation. He received the 1978 Nobel Prize in Chemistry 'for his contribution to the understanding of biological energy transfer through the formulation of the chemiosmotic theory.'		
25	1980 Baruj Benacerraf, Jean Dausset and George D. Snell "for their discoveries concerning genetically determined structures on the cell surface that regulate immunological reactions"	01	Approximately 2 feet X2feet with details of Chart and photo
26	1982 Sune K. Bergström, Bengt I. Samuelsson and John R. Vane "for their discoveries concerning prostaglandins and related biologically active substances" 1983 Barbara McClintock "for her discovery of mobile genetic elements"	01	Approximately 2 feet X2feet with details of Chart and photo
	1984 Niels K. Jerne, Georges J.F. Köhler and César Milstein "for theories concerning the specificity in development and control of the immune system and the discovery of the principle for production of monoclonal antibodies César Milstein 1984: Physiology or Medicine. Milstein was born	01	Approximately 2 feet X2feet with details of Chart and photo

	in Bahía Blanca, Argentina and studied at the university of Buenos Aires, completing a Ph.D. on the enzyme aldehyde dehydrogenase. This led him to Cambridge to work on phosphoglucomutase with Malcolm Dixon in the Department of Biochemistry. During this period he collaborated with Fred Sanger and, having obtained a Cambridge Ph.D., he moved to Sanger's group in the Department. In 1961 he returned to Argentina but in 1963 he re-joined Sanger's group, by now located in the newly-formed Laboratory of Molecular Biology at Addenbrooke's Hospital. It was at Fred's suggestion that he turned his attention from enzymology to immunology. He focused on antibodies, the proteins produced by mature B lymphocytes (plasma cells) as part of the immune response. He used myeloma cells – cancerous forms of plasma cells that multiply indefinitely – to study somatic hypermutation and the mechanism by which antibody diversity is generated. In 1975 Milstein and Georges Köhler developed the hybridoma technique for the production of monoclonal antibodies, for which they shared the Nobel Prize in Physiology or Medicine in 1984 with Niels Kaj Jerne. This discovery led to an enormous expansion in the exploitation of antibodies in science and medicine.		
27	1985 Michael S. Brown and Joseph L. Goldstein "for their discoveries concerning the regulation of cholesterol metabolism"	01	Approximately 2 feet X2feet with details of Chart and photo
28	1986 Stanley Cohen and Rita Levi-Montalcini "for their discoveries of growth factors"	01	Approximately 2 feet X2feet with details of Chart and photo
29	1987 Susumu Tonegawa "for his discovery of the genetic principle for generation of antibody diversity"	01	Approximately 2 feet X2feet with details of Chart and photo
30	1989 J. Michael Bishop and Harold E. Varmus "for their discovery of the cellular origin of retroviral oncogenes	01	Approximately 2 feet X2feet with details of Chart and photo
31	1992 Edmond H. Fischer and Edwin G. Krebs "for their discoveries concerning reversible protein phosphorylation as a biological regulatory mechanism	01	Approximately 2 feet X2feet with details of Chart and photo

32	1993 Richard J. Roberts and Phillip A. Sharp "for their discoveries of split genes"	01	Approximately 2 feet X2feet with details of Chart and photo
33	1994 Alfred G. Gilman and Martin Rodbell "for their discovery of G-proteins and the role of these proteins in signal transduction in cells"	01	Approximately 2 feet X2feet with details of Chart and photo
34	1998 Robert F. Furchgott, Louis J. Ignarro and Ferid Murad "for their discoveries concerning nitric oxide as a signalling molecule in the cardiovascular system"	01	Approximately 2 feet X2feet with details of Chart and photo
35	2001 Leland H. Hartwell, Tim Hunt and Sir Paul M. Nurse "for their discoveries of key regulators of the cell cycle"	01	Approximately 2 feet X2feet with details of Chart and photo
36	Richard Timothy Hunt 2001: Physiology or Medicine. Tim Hunt read Natural Sciences at Cambridge and became a research student in the Department in 1964 under the direction of Asher Korner. He spent a few months in the New York laboratory of Irving London, whence he returned after completing his Ph.D. in 1968 to work on protein synthesis in the rabbit reticulocyte system. He continued this interest when he came back to work with Tony Hunter and Richard Jackson in the Department,where he remained until 1990 when he moved to what is now the Cancer Research UK London Research Institute. It became Tim's habit to spend summers at the Marine Biological Laboratory at Woods Hole, Massachusetts where the ready supply of surf clams and sea urchins was much appreciated by those interested in protein synthesis in embryogenesis and mitosis. In the summer of 1982, having added [35S] methionine to a suspension of fertilized sea urchin eggs and removed samples at intervals for gel electrophoresis, Hunt noticed that the autoradiogram 'showed something very odd and unexpected', namely that, although most of the protein bands got stronger and stronger as time went by, one band did not show this expected behaviour. It was prominent at the beginning but at a certain point it faded away. He concluded that this protein underwent specific proteolysis at some point in the early development of the fertilized egg. Thus were the cyclins discovered and Hunt went on to show that cyclins begin to be synthesised after egg fertilization, increase in levels during interphase and decline very quickly in the middle of mitosis in each cell division. Cyclins are present	01	Approximately 2 feet X2feet with details of Chart and photo

	in vertebrate cells and Hunt and others showed that they bind and activate a family of protein kinases, now called the cyclin-dependent kinases, one of which had been identified as a crucial cell cycle regulator by Paul Nurse. Beginning in 1976, Nurse had identified the gene cdc2 in fission yeast (Schizosaccharomyces pombe) as controlling the progression of the cell cycle from G1 phase to S phase and the transition from G2 phase to mitosis. In 1987, Nurse identified the homologous human gene, CDK1, a cyclin dependent kinase. Also working in yeast, Leland H. Hartwell identified the fundamental role of checkpoints in cell cycle control and in particular of genes such as cdc28, which controls the start of the cycle – the progression through G1. For resolving the mechanisms by which the cell cycle is controlled, Tim Hunt shared the 2001 Nobel Prize in Physiology or Medicinewith Leland Hartwell and Paul Nurse.		
37	2006 Andrew Z. Fire and Craig C. Mello "for their discovery of RNA interference - gene silencing by double-stranded RNA"	01	Approximately 2 feet X2feet with details of Chart and photo
38	Roger Yonchien Tsien 2008: Chemistry. Roger Tsien is a New Yorker who studied at Harvard before completing a Ph.D. in 1977 as a member of the Physiological Laboratory in Cambridge where he remained as a Research Fellow until moving to the University of California, Berkeley and then to the University of California, San Diego. His Ph.D. supervisor was Jeremy Sanders in the Department of Chemistry and the subject was 'The Design and Use of Organic Chemical Tools in Cellular Physiology' which represented Tsien's early steps as a pioneer of the development of fluorescent dyes that are sensitive to the presence of particular ions such as calcium. The prototype, Quin-2, was first demonstrated in experiments carried out in this department. Another calcium imaging dye, Fura-2, has been widely used to track the movement of calcium within cells. Indo-1, another popular calcium indicator, emerged from Tsien's group in 1985 and he has also developed fluorescent indicators for other bio-relevant ions. Complementary to the quantification of cellular cation fluxes has been the realization of methods to visualize proteins in cells and thus to be able to track their movement and measure their levels as cells respond to signals. The first step in this extraordinary achievement happened in 1962 when Osamu Shimomura, Frank Johnson, and Yo Saiga isolated a photoprotein – a protein that can emit light – from luminescent jellyfish that they called aequorin. They also found another protein that gave off a	01	Approximately 2 feet X2feet with details of Chart and photo

	greenish fluorescence and helpfully called it green fluorescent protein (GFP). It transpired that when calcium binds to aequorin it glows blue but some of this blue light is absorbed by its companion GFP and re-emitted as green light (lower energy). In due course, other creatures were also found to make GFPs (Obelia, a sort of jellyfish and Renilla, a sea pansy). After the GFP gene had been tracked down, Martin Chalfie engineered DNA that could be taken up by an animal of choice, which then made GFP. Chalfie had worked as a postdoc on worm development with Sydney Brenner and John Sulston at the Laboratory of Molecular Biology in Cambridge. With this background the choice of model animal was obvious and, GFP-coding DNA with a regulatory sequence that would be switched on only in one type of worm cell having been constructed, the world first saw the use of GFP as a marker for gene expression in the form of a "glow worm" with green fluorescent spots in the few neurons where GFP was made. In 1995 Roger Tsien made the first mutant of GFP with enhanced fluorescence (brighter light). Tsien's "molecular engineering" of GFP led to the generation of a number of other mutants with different spectral properties—giving, for example, blue, cyan, red, or yellow fluorescence. These achievements have completely transformed the world of cell biology and for making it all possible, Osamu Shimomura, Martin Chalfie and Roger Tsien shared the 2008 Nobel Prize in Chemistry.		
39	2009 Elizabeth H. Blackburn, Carol W. Greider and Jack W. Szostak "for the discovery of how chromosomes are protected by telomeres and the enzyme telomerase"	01	Approximately 2 feet X2feet with details of Chart and photo
40	2012 Sir John B. Gurdon and Shinya Yamanaka "for the discovery that mature cells can be reprogrammed to become pluripotent"	01	Approximately 2 feet X2feet with details of Chart and photo
41	Carl Neuberg. Carl Alexander Neuberg (29 July 1877 – 30 May 1956) was an early pioneer in biochemistry, and he is often referred to as the "father of modern biochemistry".	01	Approximately 2 feet X2feet with details of Chart and photo
42	The father of PCR. Kary B. Mullis (another point for the Ks!) who worked for Cetus Corporation perfecting oligonucleotide synthesis received the Nobel Prize in chemistry in 1993 (along with Michael Smith) for his work on PCR and is accredited with its invention.	01	Approximately 2 feet X2feet with details of Chart and photo

Specifications Chemical List required no 62

SrNo.	NAME OF CHEMICAL	QUANTITY	PACK SIZE
1	AMMONIUM ACETATE	1	500 GM
2	ACETYL ACETONE	7	250 GM
3	AGAROSE	10	10 GM
4	ALUMINIUM OXIDE	5	500 GM
5	DI AMMONIUM OXALATE	4	500 GM
6	ALKALINE PHOSPHATASE	6	100 MG
7	AMIDO BLACK	10	25 GM
8	AMMONIUM CHLORIDE	1	500 GM
9	AMMONIUM FERRIC CITRATE	2	500 GM
10	AMMONIUM MOLYBDATE	7	500 GM
11	ASPARTIC ACID	1	100GM
12	ASCORBIC ACID	1	100GM
13	4 AMINO ANTIPYRINE	14	25 GM
14	1 AMINO 2 NAPHTHOL SULPHANILIC ACID (ANSA)	6	25 GM
15	AMMONIUM PER SULPHATE	3	500GM
16	AMMONIA SOLUTION	10	500 ML
17	AMMONIUM SULPHATE	7	500GM
18	ACETONE	19 ,34	500 ML,2.5 LIT
19	BARIUM CHLORIDE	3	500 GM
20	BARIUM HYDROXIDE	3	500 GM
21	BARIUM NITRATE	2	500 GM
22	BARIUM SULPHIDE	2	500 GM
23	BENZOIC ACID	5	500GM
24	BISMUTH NITRATE	1	500 GM
25	BILIRUBIN	2	1 GM
26	BARBITURIC ACID	10	100 GM
27	BORIC ACID	4	500GM
28	SBA	3,4	10 GM,5 GM
29	BROMINE AMPULE	5	20 ML
30	BROMOCRESOL GREEN	6	10 GM
31	BROMOCRESOL GREEN SODIUM SALT	6	25 GM

32	N BUTANOL	5	1 LIT
33	CALCIUM HYDROXIDE	9	500GM
34	CALCIUM CARBONATE	4	500GM
35	CALCIUM CHLORIDE	4	500GM
36	CREATININE	5	25 GM
37	CHLOROPHENOL RED	2	5 GM
38	CHROMOTROPIC ACID	6	25 GM
39	CITRIC ACID	5	500GM
40	CUPRIC SULPHATE/COPPER SULPHATE	36	500GM
41	CUPRIC ACETATE	2,21,40	500GM,100GM,250 GM
42	CHLOROFORM	10,6	2.5 LIT,500ML
43	CYCLOHEXIN	8	500GM
44	DEXTROSE	17	500 GM
45	2,4 DNPH	4	100 GM
46	DISODIUM HYDROGEN PHOSPHATE	3	500 GM
47	DIACETYL MONOXIME	7	100GM
48	DIPOTASSIUM HYDROGEN PHOSPHATE	2	1 KG
49	FRUCTOSE	12,1	500GM,250GM
50	ETHANOLAMINE	1	1 LIT
51	EDTA(SODIUM SALT)AND POTASSIUM SALT	16,10	250 GM,100GM
52	ETHANOL	77	500ML
53	EXTRAN	10	5 LIT
54	FIELD STAIN A	4	500 ML
55	FIELD STAIN B	4	500ML
56	FERRIC CHLORIDE	12,1	100 GM,500GM
57	FERROUS SULPHATE	5	500 GM
58	FERRIC NITRATE	2	500 GM
59	GUANIDINE HYDROCHLORIDE	1	1 KG
60	HYDROGEN PEROXIDE	13	1 LIT
61	HYDROCHLORIC ACID	27, 11	500 ML,2.5 LIT
62	ISOPROPYL ALCOHOL	4	2.5 LIT
63	IODINE	18,3	100 GM,1KG
64	LITMUS BLUE PAPER	12 BOX	
65	LITMUS RED PAPER	13 BOX	
66	LITHIUM LACTATE	3	100GM

67	LITHIUM CHLORIDE	1	250 GM
68	LACTIC ACID	6	500 GM
69	LACTOSE	5	500GM
70	LEAD ACETATE	6	500 GM
71	LITHIUM SULPHATE	2,3	100 GM,250 GM
72	LITHIUM CARBONATE	7	250 GM
73	MAGNESIUM CARBONATE	5	500 GM
74	METHANOL	45	500 ML
75	MALTOSE	17,5	250GM,100 GM
76	MERCURIC CHLORIDE	4	250 GM
77	MERCURIC SULPHATE	6	250 GM
78	MERCURIC IODIDE	4	100 GM
79	METHYI RED BLUE	4,10	10 GM,250 GM
80	METHYLENE BLUE	10	25 GM
81	MOLYBDIC ACID	6	100 GM
82	1 NAPHTHOL	5	25 GM
83	MAGNESIUM SULPHATE	12	500 GM
84	NINHYDRIN POWDER	18	10 GM
85	NITRIC ACID	7	2.5 LIT
86	ORTHOPHOSPHORIC ACID	6,4	500 ML,2.5 LIT
87	OXALIC ACID	11	500 GM
88	PH PAPER (2-4.5)	1 BOX	
89	PH PAPER (5-7.5)	1 BOX	
90	PHOSPHOMOLYBDIC ACID	1	100 GM
91	PHENYL HYDRAZINE	1	250 GM
92	PHOSPHOTUNGSTIC ACID	3	100 GM
93	POTASSIUM HEXOCYANOFERRATE	1	500GM
94	POTASSIUM CHLORIDE	3	500 GM
95	PHENOL	3	500 GM
96	POTASSIUM CHROMATE	4	500 GM
97	PHENOLPHTHALEIN INDICATOR	1	50 GM
98	POTASSIUM FERROCYNIDE	6	500 GM
99	POTASSIUM HYDROXIDE	16	500GM

100	POTASSIUM IODIDE	9,2	500 NGM,100GM
101	POTASSIUM DICHROMATE	14	500 GM
102	POTASSIUM DIHYDROGEN PHOSPHATE	11	500GM
103	POTASSIUM FERRICYNIDE	12	500 GM
104	RESORCINOL	3	250 GM
105	PICRIC ACID	10,6	100 GM,500GM
106	PONCEAU RED STAIN	10	25GM
107	SAPONIN	3	500GM
108	SALICYCLIC ACID	1	250 GM
109	SILVER NITRATE	9	25 GM
110	SODIUM AZIDE	2	100 GM
111	SODIUM ACETATE	1,2	500 GM,250 GM
112	SODIUM CARBONATE	19	500GM
113	SODIUM BISULPHATE	10	500 GM
114	SODIUM HYDROGEN CARBONATE	21	500 GM
115	SODIUM CHLORIDE	3	500GM
116	SODIUM DITHIONITE	8	500 GM
117	SODIUM METABISULPHITE	3	500GM
118	SODIUM SULPHATE	8	500 GM
119	SODIUM MOLYBDATE	8	500GM
120	SODIUM NITRITE	4	500GM
121	SODIUM NITRATE	9	500GM
122	SODIUM DIHYDROGEN ORTHOPHOSPHATE	5	500GM
123	SODIUM DIHYDROGEN PHOSPHATE	3	500 GM
124	SODIUM NITROPRUSSIDE	7	100 GM
125	SODIUM PYRUVATE	2	100 GM
126	SODIUM OXALATE	6	500GM
127	SULPHURIC ACID	18,6	500 ML,2.5 LIT
128	SODIUM HYDROXIDE	30	500 GM
129	SODIUM SULPHITE	20	500 GM
130	POTASSIUM SODIUM TARTARATE	8	500 GM
131	TRISODIUM CITRATE	23	500 GM
132	SUCROSE	4	500 GM

133	SULPHOSALICYCLIC ACID	18	500 GM
134	SULPHANILIC ACID	4	100 GM
135	TARTARIC ACID	6	500 GM
136	TITRIPLEX	2	100 GM
137	THIOSEMICARBAZIDE	1	100GM
138	TRIS BUFFER	20	25 GM
139	THIOUREA	1,3	100 GM,250 GM
140	TRICHLOROACETIC ACID	15	500 GM
141	TOLUENE	6	2.5 LIT
142	TUNGSTOPHOSPHORIC ACID	1,2	100,25 GM
143	URIC ACID	5	25 GM
144	UREA	8	500 GM
145	VANELINE	2	100 GM
146	UNIVERSAL INDICATOR	7 BOX	
147	XYLOSE	6	25 GM
148	XYLENE	1	500 ML
149	ZINC SULPHATE	2	500 GM
150	Glucose std.	1	100 gm
151	urea std.	1	100 gm
152	Protine albumin std.	1	25 gm
153	Creatinine std.	1	10 gm
154	bilirubin std.	1	3 gm
155	Phenol std.	1	10 gm
156	pyruvate std.	1	10gm
157	calcium std.	1	10 gm
158	phosphorus std.	1	10 gm
159	Ammonium sulphate	5	5× 500 gms
160	Magnesium sulphate	4	4×500gms
161	Boric acid	5	5×500gms
162	Amido black 10B	1	1×25gms
163	4-aminoantipyrine	5	5×100gms
164	Alloxan (hydrate)LR	2×25gms	2×25gms
165	alpha-Ketoglutaric acid	5×100gms	5×100gms
166	cholesterol	1×25gms	1×25gms
167	DL-alanine	5×100gms	5×100gms
168	Agarose low EEo	9× 25gms	9× 25gms

169	DL- aspartic acid	9× 25gms	9× 25gms
170	Methyline blue for biochem	1×25gms	1×25gms
171	l-Citrulline	1×10gms	1×10gms
172	l-Leucine	1×10gms	1×10gms
173	L-proline	1×25gms	1×25gms
174	L-hydroxyproline	1×5gms	1×5gms
175	Bismith subnitrate	1×100gms	1×100gms
176	Barbituric acid for synthesis	1×100gms	1×100gms
177	Bilirubin gr grade	5×10gms	5×10gms
178	Benzyol peroxide	5×100gms	5×100gms
179	Ponceau	1×25gms	1×25gms
180	Bromocresol green	1×5gms	1×5gms
181	Bromophenol blue	1×5gms	1×5gms
182	Coomasie brillient blue 250R	1×5gms	1×5gms
183	Ethenine diamine tetra acetic acid	5×100gms	5×100gms
184	Copper sulphate	5×500gms	5×500gms
185	Gelatin bacteriological	2×100gms	2×100gms
186	Diethylene amine	**500ml**	**500ml**
187	Diacetyl monoximegr grade	5×100gms	5×100gms
188	1,2 dicholoroethane	**500ml ×4**	**500ml ×4**
189	Ferric chloride	6×500gms	6×500gms
190	Ferric nitrate	5×500gms	5×500gms
191	D-fructose	5×100gms	5×100gms
192	Phenol-lr	5×500gms	5×500gms
193	Boric acid	5×500gms	5×500gms
194	Benzoic acid	1×500gms	1×500gms
195	Arsenic trioxide	1×500gms	1×500gms
196	L-ascorbic acid Viamin C	1×500gms	1×500gms
197	Citric acid (monohydrate,pure)	5×500gms	5×500gms
198	Lactic acid	**500ml**	**500ml**
199	Metaphosphoric acid	5× 500 gms	5× 500 gms
200	Molbdic acid	1×500 gms	1×500 gms
201	Oxalic acid picric acid	5×500gms	5×500gms

202	Amido black 10B	10gms ×1	10gms ×1
203	Peptone	5× 500 gms	5× 500 gms
204	D-ribose	5× 5 gms	5× 5 gms
205	thibarbituric acid	5× 100 gms	5× 100 gms
206	riboflavin	5×25 gms	5×25 gms
207	Disodium hydrogen orthophosphate	5× 500 gms	5× 500 gms
208	Mercuric iodide	5× 100 gms	5× 100 gms
209	Bile salt DL –valine	5× 100 gms	5× 100 gms
210	Thiocarbazide	5× 15 gms	5× 15 gms
211	thiosemicarbazide	5× 25 gms	5× 25 gms
212	Sodium phosphate monobasic	5× 500 gms	5× 500 gms
213	Sodium sulphate	5× 500 gms	5× 500 gms
214	Sodium bisulphate	5× 500 gms	5× 500 gms
215	Sodium sulphite	5× 500 gms	5× 500 gms
216	Sodium pyruvate	5× 25 gms	5× 25 gms
217	Potassium sodium tartarate	5× 500 gms	5× 500 gms
218	Sodium tungstate	5× 25 gms	5× 25 gms
219	Sucrose	5× 500 gms	5× 500 gms
220	Sodium thiosulphate	5× 500 gms	5× 500 gms
221	Starch	5× 500 gms	5× 500 gms
222	Sulphur power	4× 500 gms	4× 500 gms
223	Sodium chloride	5× 500 gms	5× 500 gms
224	Litmus paper (red)	5 boxes	5 boxes
225	Litmus paper (blue)	5 boxes	5 boxes

226	maltose	5× 500 gms	5× 500 gms
227	Methlene blue		
228	Trisodium citrate	3× 500 gms	3× 500 gms
229	Sodium hypochloride	5× 500 gms	5× 500 gms
230	Sodium phenyl phosphate	1× 25 gms	1× 25 gms
231	Sodium tugstate	2×25gms	2×25gms
232	A-naphtol	2×250gms	2×250gms
233	Diacetyl monoxime	3× 500 gms	3× 500 gms
234	D-glucose	5× 500 gms	5× 500 gms
235	Standard 24 amino acid Kit	1 kit	1 kit
236	Ammonium persulphate	5× 500 gms	5× 500 gms
237	Sodium dodocyl sulphate	1× 500 gms	1× 500 gms
238	Agarose-low melting	1×10 gms	1×10 gms
239	Sodium carbonate	5× 500 gms	5× 500 gms
240	Sodium acetate	3× 500 gms	3× 500 gms
241	Ninhyrin	2×250gms	2×250gms
242	cupric acetate	4× 500 gms	4× 500 gms
243	Acetic acid	**5**	**5×2.5lit**
244	Sulphuric acid	**5**	**5×2.5lit**
245	Nitric acid	**5**	**5×2.5lit**
246	Hydrochoric acid	**5**	**5×2.5lit**
247	Orthophosphoric acid	**5**	**5×2.5lit**
248	Hydrogen peroxide	**5**	**5×2.5lit**
249	Ethanol	**5**	**5×2.5lit**
250	Sucrose	**5**	**5 × 500**
251	Sudan black	**5**	**25gms**
252	Sulphur powder	**5**	**5 × 500gms**

253	Tannic acid	**5**	**5 × 50gms**
254	Tartaric acid	**5 × 25gms**	**5 × 25gms**
255	Thiosemicarbazide	**5 × 500gms**	**5 × 500gms**
256	Toluene sulphur free	**5**	**5 × 500ml**
257	Triethalamine	**5**	**5 × 500gms**
258	Tris	**5**	**5 × 500gms**
259	Trisodium citrate	**5**	**5 × 500gms**
260	Trypsin	**5**	**5 × 25gms**
261	Urea	**5**	**5 × 500gms**
262	Urease powder	**5**	**5 × 500gms**
263	Uric acid	**5**	**5 × 25gms**
264	Vanillin	**5**	**5 × 25gms**
265	Zinc sulphate	**5**	**5 × 25gms**
266		**5**	**5 × 500gms**
267	Trichloro acetic acid	**5**	**5 × 500gms**
268	Suphosalycylic acid	**5**	**5 × 500gms**
269	Citric acid	**5**	**5 × 500gms**
270	Picric acid	**5**	**5 × 500gms**
271	Acetic acid	**5**	**5 × 2.5ltr**
272	Tartaric acid	**5**	**5 × 500gms**

273	Succinic acid	**5**	**5 × 500gms**
274	Sulphanilic acid	**5**	**5 × 500gms**
275	Phosphotungstic acid	**5**	**5 × 500gms**
276	Benzoic acid	**5**	**5 × 2.5ltr**
277	Phosphomolybdic acid	**5**	**5 × 500gms**
278	Metaphosphoric acid	**5**	**5 × 500gms**
279	Tribarbituric acid	**5**	**5 × 500gms**

280. Glucose	25 × 100 tests
281. Urea	30 × 100 tests
282. Uric acid	10 × 100 tests
283. Creatinine	10 × 100 tests
284. Protein	10 × 100 tests
285. Albumin	10 × 100 tests
286. Cholesterol	10 × 100 tests
287. Triglyceride	50 × 100 tests
288. LDL	50 × 100 tests
289. HDL	10 × 100 tests
290. Bilirubin	10 × 100 tests
291. SGOT	50 × 100 tests
292. SGPT	50 × 100 tests
293. ALP	60 × 100 tests
294. Amylase	50 × 100 tests

295. Inorganic phosphorus	10 × 100 tests
296. Calcium	50 × 100 tests