Changes in the final from draft syllabus basesd on the review committee constituted by MCI

Sub: Review of draft syllabus and recommendations for National Eligibility-cum-Entrance Test (NEET) for admission to MBBS courses across the country (NEET-UG).

Ref: Feedbacks on draft syllabus and other issues

General Recommendations:

The committee reviewed the draft syllabus for the common National Eligibility-cum-Entrance Test (NEET) for admission to MBBS courses across the country (NEET-UG). The draft syllabus was made available on the MCI website (www.mciindia.org) from 22 July 2011 to 11 August, 2011 for feedback from various stakeholders. It is to be noted that syllabus for NEET-UG is not the same as the CBSE syllabus. It has been separately formulated basing on both CBSE and various State syllabii. The following are the general recommendations of the committee.

1. The topics of biology, chemistry, and physics covered in class XI (10+1 level) and class XII (10+2 level) are equally important and relevant for the entrance examination standpoint. Therefore due weightage needs to be given to topics included in both the syllabii for class XI andClass XII. The question paper shall contain questions from physics, chemistry, and biology.

Feedback responses on the syllabus: Majority of the feedback responses were related to omission of human physiology and some portions of plant physiology. Other feedback responses suggested to reduce the load in chemistry and physics.

Specific Recommendations on the syllabus

Biology:

Addition to unit IV (Plant Physiology)

Photosynthesis: Photosynthesis as a means of Autotrophic nutrition; Site of photosynthesis take place; pigments involved in Photosynthesis (Elementary idea); Photochemical and biosynthetic phases of photosynthesis; Cyclic and non cyclic and photophosphorylation; Chemiosmotic hypothesis; Photorespiration C3 and C4 pathways; Factors affecting photosynthesis.

Respiration: Exchange gases; Cellular respiration-glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); Energy relations-Number of ATP molecules generated; Amphibolic pathways; Respiratory quotient.

Plant growth and development: Seed germination; Phases of Plant growth and plant growth rate; Conditions of growth; Differentiation, dedifferentiation and redifferentiation; Sequence of developmental process in a plant cell; Growth regulators-auxin,gibberellin, cytokinin, ethylene, ABA; Seed dormancy; Vernalisation; Photoperiodism.

V. Human Physiology

Digestion and absorption; Alimentary canal and digestive glands; Role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; Caloric value of proteins, carbohydrates and fats; Egestion; Nutritional and digestive disorders – PEM, indigestion, constipation, vomiting, jaundice, diarrhea.

Breathing and Respiration: Respiratory organs in animals (recall only); Respiratory system in humans; Mechanism of breathing and its regulation in humans-Exchange of gases, transport of gases and regulation of respiration Respiratory volumes; Disorders related to respiration-Asthma, Emphysema, Occupational respiratory disorders.

Body fluids and circulation: Composition of blood, blood groups, coagulation of blood; Composition of lymph and its function; Human circulatory system-Structure of human heart and blood vessels; Cardiac cycle, cardiac output, ECG, Double circulation; Regulation of cardiac activity; Disorders of circulatory system-Hypertension, Coronary artery disease, Angina pectoris, Heart failure.

Excretory products and their elimination: Modes of excretion- Ammonotelism, ureotelism, uricotelism; Human excretory system-structure and fuction; Urine formation, Osmoregulation; Regulation of kidney function-Renin-angiotensin, Atrial Natriuretic Factor, ADH and Diabetes insipidus; Role of other organs in excretion; Disorders; Uraemia, Renal failure, Renal calculi, Nephritis; Dialysis and artificial kidney.

Locomotion and Movement: Types of movement- ciliary, fiagellar, muscular; Skeletal muscle- contractile proteins and muscle contraction; Skeletal system and its functions (To be dealt with the relevant practical of Practical syllabus); Joints; Disorders of muscular and skeletal system-Myasthenia gravis, Tetany, Muscular dystrophy, Arthritis, Osteoporosis, Gout.

Neural control and coordination: Neuron and nerves; Nervous system in humans-central nervous system, peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse; Reflex action; Sense organs; Elementary structure and function of eye and ear.

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Chemical coordination and regulation: Endocrine glands and hormones; Human endocrine system-Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; Mechanism of hormone action (Elementary Idea); Role of hormones as messengers and regulators, Hypo-and hyperactivity and related disorders (Common disorders e.g. Dwarfism, Acromegaly, Cretinism, goiter, exopthalmic goiter, diabetes, Addison's disease).

Imp: Diseases and disorders mentioned above to be dealt in brief.

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Chemistry : Portions in draft syllabus not relevant to medical stream

Syllabus Portion	Deleted Portions of the draft syllabus
Class XI of Chemistry	
Unit I of XI: **Some Basic Concepts of Chemistry**	Historical approach to particle nature of matter,
UNIT II of XI: **Structure of Atom**	Discovery of electron, proton and neutron; Thompson's model and its limitations, Rutherford's model and its limitations, Bohr's model and its limitations
UNIT III of XI: Classification of Elements and Periodicity in Properties	Significance of classification, brief history of the development of periodic table. Inert gas radii. Nomenclature of elements with atomic number greater than 100.
UNIT IV of class XI: Chemical Bonding and Molecular Structure	Covalent character of ionic bond;
UNITVI : Thermodynamics	Concepts of system, types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.
UNIT VIII: Redox Reactions	Applications of redox reactions.
UNIT IX: Hydrogen	Position of hydrogen in periodic table, hydrogen as a fuel.
UNIT X: s-Block Elements (Alkali and Alkaline earth metals)	CaO, $CaCO_3$;
UNIT XI: Some p-Block Elements	Physical and chemical properties of boron
UNIT XIII: Hydrocarbons	Classification of Hydrocarbons; Aliphatic Hydrocarbons:

Syllabus Portion	Deleted Portions of the draft syllabus
Class XII of Chemistry	
UNIT I: Solid State	*n* and *p* type semiconductors.
UNIT III: Electrochemistry	Nernst equation and its application to chemical cells.
UNIT VII: *p*- Block Elements	*Group 15 elements*: nitrogen-preparation, properties and uses; compounds of nitrogen: *Group 16 elements*: Properties and manufacture of sulphuric acid *Group 17 elements*: Oxidation states; Prepartion of chlorine and hydrochloric acid
UNIT VIII: *d* and *f* Block Elements	Occurrence of transition metals; Metallic character of first row transition metals;
UNIT IX: Coordination Compounds	Extraction of metals;

Physics: Portions in draft syllabus not relevant to medical stream

Syllabus Portion	Deleted Portions of the draft syllabus
Class XI of Physics	
UNIT VII: Properties of Bulk Matter	Pressure due to fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity of fluid pressure.
UNIT IX: Behaviour of Perfect Gas and Kinetic Theory	*Kinetic theory of gases:* rms speed of gas molecules; Avogadro's number.
Class XII of Physics	
UNIT X: Communication System Details:-	*Entire portion of the unit is deleted* Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude –modulated wave.