D.Y.Patil Deemed to be University School of Ayurveda, Nerul Navi Mumbai.
Syllabus of Final MD

9. KAUMARBHRITYA TANTRA-BALROGA
(PEDIATRICS)

Theory- 400 marks
Practical and Viva-voce - 100 marks

PAPER – I Marks: 100

Bija, Garbha evam Balavikas Vigyaniya
(Human Genetics, Embryology and Growth & Development)

A. Prakrita Bija-Bijabhaga-Bijabhagavayava evam Tadjanya Vikriti (Genetics and related disorders)

1. Ayurvedic genetics with modern interpretations: Shukra, Shonita, Shukra Shonita Doshas, Bija-Bijabhaga-Bijabhagavayava Vikriti, Matrija and Pitraja Bhavas, Yajjah Purushiya and Atulyagotriya

2. Modern genetics

   - Basic concepts

Pathogenesis

1. Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, inborn errors of metabolism
2. Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities, syndromes
4. Chromosomal disorders
5. Chromosomal aberration (Klinefelter, Turner and Down’s syndrome)
6. Genetic Counseling, Ethics and Genetics

B. Prakrita Bija-Bijabhaga-Bijabhagavayava evam Tadjanya Vikriti (Genetics and related disorders)

1. Garbha (embryo), Garbhawastha (gestation period), sperm; ovum; spermatogenesis; oogenesis; structure of ovum
2. Sperm in the male genital tract; sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasi Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
   - First week of development
   - Second week of development
   - Third week of development
   - Fourth to eighth week of development (Embryonic period)
   - Development from third month till birth (Fetal period)
4. Formation of Prakriti
5. Apara (Placenta) Apara Nirmana (Formation of placenta), Apara Karya (Functions of placenta); Apara Vikara (Placental abnormalities)
6. Nabhinadi (Umbilical Cord)
   Formation and features of umbilical cord
7. Garbha Poshana (Fetal nutrition including fetal circulation)
8. Yamala Garbha (twins)
10. Effect of maternal medication, diet and illness over fetus.
11. Teratology including defects of bija, atma karma, kal, ashaya etc.: causative factors for teratogenecity, mode of actions of teratogenes, critical periods
12. Perinatal Care and Perinatal complications
14. Prenatal diagnosis for congenital abnormalities
15. Samanya Janmajata Vikara (Common congenital anomalies of different systems):
    Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Khandaushtha (cleft lip), Khand-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equanovarus and valgus), Tracheoesophageal Fistula (TOF), Spina bifida, Meningocele, Meningomyelocele, Pyloric Stenosis.

**PAPER-II**

**Navajata Shishu Vigyan evam Poshana (Neonatology and nutrition)**

Navajata Shishu Paribhasha, Vargikarana (Important definitions and classification related to neonates.)

1. Navajata Shishu Paricharya evam Prana-Pratyagamana (Care of the newborn including recent methodology for the resuscitation)
2. Samanya Navajata Shishu Paricharya (General Neonatal Care –Labour room onwards)
3. Samaya purva evam Samaya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn)
4. Prasava Kalina Abhigataja Vyadhi (Birth injuries): Upashirshaka (Caput, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage)
5. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including gestational age assessment
6. Kumaragar: Navajata Shishu Kaksha Prabandhana (Nursery management), NICU, Nursery plan, staff pattern, medical records, Visankramnikarana (sterilization), Knowledge of equipments used in nursery.


8. Navjata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha (constipation), Udara shul (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).


11. Nutrition:
   o Navjat Shishu Ahara (Neonatal feeding):
     1. Specific Feeding methodology as per Ayurveda and recent advances; Day to day fluid, milk, caloric requirement for the newborn, feeding technique for the preterm baby.
     2. Stanyotpatti and Prasruti (Lactation physiology), Stanya Samghatana (Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampat evam Mahatva (Properties & importance of pure milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate production and absence of breast milk), Stanya parikshana (Examination of breast milk), Stanyabhave Pathya Vyavastha (Alternative feeding methods in absence
of breast milk), Various feeding methods, TPN (Total Parenteral Nutrition)

3. Stanyadosha (Vitiation of Breast milk), Stany Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk formation)

4. Dhatri (Wet nurse): Dhatri Guna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.

5. Lehana (Elucturies)
   o Bala-Poshana (Child Nutrition):
     1. Daily requirements of nutrients for infant and children
     2. Common food sources
     3. Satmya and Asatmya Ahara (Compatible and incompatible diet)
     4. Pathya evam Apathya Ahara (Congenial and non-congenial diet)
     5. Stanyapanayana (Weaning)

PAPER-III Marks: 100

Balrog (Pediatric Disorders)

Pranvaha Srotasjanya Vyadhi (Respiratory disorders)- Kasa (Cough), Shvasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (tuberculosis), Vaksha-Puyata (Pyothorax), Vaksha Vata-Purnata (Pneumothorax)

1. Annavaha Srotasjanya Vyadhi (Gastrointestinal disorders): Jwar (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Vibandha (Constipation, Udarshula (Pain in abdomen), Guda bhramsh (Rectal prolapse)

2. Rasa evam Raktavaha Srotasjanya Vyadhi (Hematological and circulatory disorders): Pandu (Anemia and its various types like Nutritional, haemolytic etc.) and, Raktapitta (Bleeding disorders), Vishishta Hridrog (Specific cardiac diseases- RHD etc), Raktagat-vata (Hypertension), Leukemia.
3. Mamsavaha Srotasjanya Vyadhi: Myopathies

4. Mutravaha srotasjanya Vyadhi (Urinary System disorders): Vrikkashotha
   (Glomerulonephritits and nephrotic syndrome), Mutrakriccha (Dysuria), Mutraghata
   (Anuria),

5. Vatavaha Santhanjanya Vyadhi (Nervous system disorders): Ardita (Facial paralysis),
   Pakshavadha (Hemiplegia), Ekangaghata (Monoplegia), Adharanga Vayu (diplegia),
   Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis),
   Mastishkavrana-Shotha (Meningitis), Amavata (Juvenile Rheumatoid arthritis), Cerebral
   palsy.

6. Manovaha Srotasa Vyadhi: Breath holding, Shayya mutra (Bed wetting), Autism,
   ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental
   retardation, Temper tantrum, Pica

7. Disability and Rehabilitation

8. Antahsravi evam Chayapachayajanya Rog (Endocrine and Metabolic disorders)

   (PEM and allied disorders), Vitamin-mineral and trace elements deficiency disorders,
   Hypervitaminosis.

10. Krimi evam Aupsargika Rog (Infestations and Infections): Krimi (Giardiasis and
    intestinal helminthiasis, Amoebiasis) Common bacterial, viral infections with special
    reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough,
    Aaptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha
    (Mumps), Rubella and Masurika (Chickenpox), Antrika Jwar (Typhoid and Paratyphoid),
    Viral Hepatitis,); Vishama Jwar (Malaria) and Kala-azar, Dengue fever, HIV (AIDS),
    Poliomyelitis, Mastishkavaran Shotha (Meningitis), Mastishka Shotha (Encephalitis),
    Chickengunia

11. Tvaka Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhama,
    Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.

12. Anya Vyadhya (Miscellaneous disorders): Jalodar (Ascites), Gandamala, Apachi (Cervical
    lymphadenitis), Kukunakadi Akshi Rog, Hodgkin & non-Hodgkin Lymphoma, Abnormal
    growth patterns, Short stature, Niruddha prakash (Phimosis)

13. Samghata- Bala Pravrita Rog (damstra): Dog bite, Snake bite, Scorpion bite etc

15. Balagraha: Scientific study of Graha Rogs

**PAPER-IV**  
**Marks: 100**

**Kaumarabhritya in Ancient Classics and recent Advances**

1. Significant contributions of Kashyapa samhita, Arogya raksha Kalpadrum and other texts/treatises of Ayurveda in the field of Kaumarabhritya including relevant parts from Brihatrai
2. Panchakarma: Principles of Panchakarma and their application in pediatric practice
3. Update knowledge of clinical pediatrics including recent researches in Kaumarabhritya.

**Practical/ Clinical Exposure**

1. Skill in practical procedures like – New born baby care, cord care, phototherapy, premature baby care, KMC, venepuncture, cord blood sampling, stomach wash, suction, resuscitation, etc. (min 50 neonatal case records to be maintained)
2. Practical skill of Pediatric Panchakarma procedures, record of minimum 50 procedures.
3. School Child Health Survey and Health Check up, minimum 100 Health records per scholar to be maintained.
4. IQ Assessment of Children, minimum 10 case records per scholar to be maintained.
5. Exposure to National Health Programs related to Children, including Immunization Program.
6. Patient case Records (25 Records)
7. Practical knowledge of modern diagnostic (invasive & non invasive) tools and techniques used in pediatrics.
8. Practical knowledge of dealing with the common emergency pediatrics problems.
9. Preparation of Lectures (PPT) from UG syllabus (min. 3)

Pattern of practical examination:

1. Case record - 15 Marks
2. Bed side examination
   - Short Case - 15 Marks
   - Long Case - 25 Marks
3. Identification of instruments/spotting - 10 Marks
4. Lecture Presentation - 10 Marks
5. Viva-voce - 25 Marks

Reference books:

1. Related matters from Kashyap Samhita, Vrihatratri and Harita Samhita.
2. Arogya Raksha Kalpadrumam.
3. Principles & practice of Pediatrics in Ayurveda (Prof CHS Shashtri)
4. Child Health Care in Ayurveda (Prof Abhimanyu Kumar)
5. Kaumarbhritya (Hindi-Prof D.N. Mishra)
6. Textbook of Pediatrics (IAP)
7. Care of Newborn (Meherban Singh)
8. Ayurvedic concepts of human Embryology: Prof Abhimanyu Kumar
10. Kumar Tantra Samucchaya – Ramanath Dwivedi
11. Human Embryology- Langman
12. Text Book of Pediatrics-Nelson