

Himachal Pradesh Public Service Commission

No. 3-61/2024-PSC (R-I)

Dated 16-04-2025

Syllabus for the descriptive type Subject Aptitude Test (SAT) for the recruitment to post of Assistant Professor (Obstetrics & Gynaecology), Class-I (on regular basis) in the Department of Medical Education & Research, H.P. The SAT paper shall be of 03 hours duration having 120 Marks. The SAT paper shall have two parts i.e. Part-I and Part-II and cover the following topics of MD or MS (Obstetrics and Midwifery) & M.S. (Gynaecology) level.

PART-I (60 MARKS)

1. BASIC SCIENCE:-

- Normal and abnormal development structure and function (female and male) urogenital system and female breast.
- Applied Anatomy of genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, upper thigh (inguinal ligament, inguinal canal, vulva, rectum and anal canal).
- Physiology of spermatogenesis.
- Endocrinology related to male and female reproduction (Neurotransmitters).
- Anatomy and physiology of urinary and lower GI (Rectum / anal canal) tract.
- Development, structure and function of placenta, umbilical cord and amniotic fluid.
- Anatomical and physiological changes in female genital tract during pregnancy.
- Anatomy of fetus, fetal growth and development, fetal physiology and fetal circulation.
- Physiological and neuro-endocrinal changes during puberty, adolescence, menstruation, ovulation, fertilization, climacteric and menopause.
- Biochemical and endocrine changes during pregnancy, including systemic changes in cardiovascular, hematological, renal hepatic, renal, hepatic and other systems.
- Biophysical and biochemical changes in uterus and cervix during pregnancy and labor.
- Pharmacology of identified drugs used during pregnancy, labour, post-partum period in reference to their absorption, distribution, excretion, (hepatic) metabolism, transfer of the drugs across the placenta, effect of the drugs (used) on labor, on fetus, their excretion through breast milk.
- Mechanism of action, excretion, metabolism of identified drugs used in the management of Gynaecological disorder.
- Role of hormones in Obstetrics and Gynaecology.

- **Markers in Obstetrics & Gynaecology** - Non-neoplastic and neoplastic diseases
- Pathophysiology of ovaries, fallopian tubes, uterus, cervix, vagina and external genitalia in healthy and diseased conditions.
- Normal and abnormal pathology of placenta, umbilical cord, amniotic fluid and fetus.
- Normal and abnormal microbiology of genital tract. Bacterial, viral and parasitological infections responsible for maternal, fetal and gynaecological disorders.
- Humoral and cellular immunology in Obstetrics & Gynaecology.
- Gametogenesis, fertilization, implantation and early development of embryo.
- Normal Pregnancy, physiological changes during pregnancy, labor and parturition.
- Immunology of pregnancy.
- Lactation.

2. Medical Genetics

- Basic medical genetics including cytogenetics.
- Pattern of inheritance
- Chromosomal abnormalities - types, incidence, diagnosis, management and recurrence risk.
- General principles of Teratology.
- Screening, counseling and prevention of developmental abnormalities.
- Birth defects - genetics, teratology and counseling.

3. Clinical obstetrics

■ Antenatal Care:

- Prenatal care of normal pregnancy including examination, nutrition, immunization and follow up.
- Identification and management of complications and complications of pregnancy: abortion, ectopic pregnancy, vesicular mole, Gestational trophoblastic Diseases, hyperemesis gravidarum, multiple pregnancy, antipartum hemorrhage, pregnancy induced hypertension, preeclampsia, eclampsia, Other associated hypertensive disorders, Anemia, Rh incompatibility, diabetes, heart disease, renal and hepatic diseases, preterm - post term pregnancies, intrauterine fetal growth retardation,
- Neurological, hematological, dermatological diseases, immunological disorders and other medical and surgical disorders/problems associated with pregnancy, Multiple pregnancies, Hydramnios, Oligoamnios.
- Diagnosis of contracted pelvis (CPD) and its management.
- High-risk pregnancy
 - Pregnancy associated with complications, medical and surgical problems.
 - Prolonged gestation.
 - Preterm labor, premature rupture of membranes.
 - Blood group incompatibilities

- Recurrent pregnancy wastage.
- Evaluation of fetal and maternal health in complicated pregnancy by making use of diagnostic modalities including modern ones (USG, Doppler, Electronic monitors) and plan for safe delivery for mother and fetus. Identifying fetus at risk and its management. Prenatal diagnostic modalities including modern ones.
- Infections in pregnancy (bacterial, viral, fungal, protozoan)
 - Malaria, Toxoplasmosis.
 - Viral – Rubella, CMV, Herpes, HIV, Hepatic viral infections (B, C etc)
 - Sexually Transmitted Infections (STDs)
 - Mother to fetal transmission of infections.
- Identification and management of fetal malpositions and malpresentations.
- Management of pregnancies complicated by medical, surgical (with other specialties as required) and gynecological diseases.
 - Anemia, hematological disorders
 - Respiratory, Heart, Renal, Liver, skin diseases.
 - Gastrointestinal, Hypertensive, Autoimmune, Endocrine disorders.
 - Associated Surgical Problems.
 - Acute Abdomen (surgical emergencies - appendicitis and GI emergencies).
 - Other associated surgical problems.
 - Gynaecological disorders associate with pregnancy - congenital genital tract developmental anomalies, Gynaec pathologies - fibroid uterus, Ca Cx, genital prolapse etc.
 - Prenatal diagnosis (of fetal problems and abnormalities), treatment – Fetal therapy
 - M.T.P, PC & P.N.D.T Act etc
 - National health MCH programs, social obstetrics and vital statistics
 - Recent advances in Obstetrics.
- **Intra-partum care:**
 - Normal labor - mechanism and management.
 - Partographic monitoring of labor progress, recognition of abnormal labor and its appropriate management.
 - Identification and conduct of abnormal labor and complicated delivery - breech, forceps delivery, caesarian section, destructive operations.
 - Induction and augmentation of labor.
 - Management of abnormal labor - Abnormal pelvis, soft tissue abnormalities of birth canal, mal-presentation, mal-positions of fetus, abnormal uterine action, obstructed labor and other distocias.
 - Analgesia and anaesthesia in labor.
 - Maternal and fetal monitoring in normal and abnormal labor (including electronic fetal monitoring).
 - Identification and management of intrapartum complications, Cord presentation, complication of 3rd stage of labor - retained placenta, inversion of uterus, rupture of uterus, post partum hemorrhage.

■ **Post Partum**

- Complication of 3rd stage of labor retained placenta, inversion of uterus, post partum hemorrhage, rupture of uterus, Management of primary and secondary post-partum hemorrhage, retained placenta, uterine inversion. Post-partum collapse, amniotic fluid embolism
- Identification and management of genital tract trauma - perineal tear, cervical/vaginal tear, episiotomy complications, rupture uterus.
- Management of critically ill woman.
- Post partum shock, sepsis and psychosis.
- Postpartum contraception.
- Breast feeding practice; counseling and importance of breast-feeding. Problems in breast-feeding and their management, Baby friendly practices.
- Problems of newborn - at birth (resuscitation), management of early neonatal problems.
- Normal and abnormal purpura - sepsis, thrombophlebitis, mastitis, psychosis.
- Hematological problems in Obstetrics including coagulation disorders. Use of blood and blood components/products.

■ **Operative Obstetrics:**

- Decision making, technique and management of complications.
- Vaginal instrumental delivery, Caesarian section, Obst. Hysterectomy, destructive operations, manipulations (External/internal podalic version, manual removal of placenta etc)
- Medical Termination of Pregnancy - safe abortion - selection of cases, technique and management of complication. MTP law.

■ **New Born**

- Care of new born: Normal and high risk new born (including NICU care).
- Asphyxia and neonatal resuscitation.
- Neonatal sepsis - prevention, detection and management.
- Neonatal hyper - bilirubinemia - investigation and management.
- Birth trauma - Detection and management.
- Detection and management of fetal/neonatal malformation.
- Management of common neonatal problems.

PART-II (60 MARKS)

1. Clinical Gynaecology and Fertility Regulation

- Epidemiology and etiopathogenesis of gynaecological disorders.
- Diagnostic modalities and management of common benign and malignant gynaecological diseases (diseases of genital tract):
 - Fibroid uterus
 - Endometriosis and adenomyosis
 - Endometrial hyperplasia

- Genital prolapse (uterine and vaginal)
- Cervical erosion, cervicitis, cervical polyps, cervical neoplasia.
- Vaginal cysts, vaginal infections, vaginal neoplasia (VIN)
- Benign Ovarian pathologies
- Malignant genital neoplasia - of ovary, Fallopian tubes, uterus, cervix, vagina, vulva and Gestational Trophoblastic diseases, Cancer Breast.
- Diagnosis and surgical management of clinical conditions related to congenital malformations of genital tract. Reconstructive surgery in gynaecology.
- Intersex, ambiguous sex and chromosomal abnormalities.
- Reproductive endocrinology: Evaluation of Primary/secondary Amenorrhea, management of Hyperprolactinemia, Hirsutism, Chronic an-ovulation, PCOD, thyroid and other endocrine dysfunctions.
- Infertility - Evaluation and management
 - Methods of Ovulation Induction
 - Tubal (Micro) surgery
 - Management of immunological factors of Infertility
 - Male infertility
 - Obesity and other Infertility problems.
 - **(Introductory knowledge of)** Advanced Assisted Reproductive Techniques (ART)
- Reproductive tract Infections: prevention, diagnosis and treatment.
 - STD
 - HIV
 - Other Infections
 - Genital Tuberculosis.
- Principles of radiotherapy and chemotherapy in gynaecological malignancies. Choice, schedule of administration and complications of such therapies.
- Rational approach in diagnosis and management of endocrinal abnormalities such as: menstrual abnormalities, amenorrhea (primary/secondary), dysfunctional uterine bleeding, polycystic ovarian disease, hyperprolactinemia (galactorrhea), hyperandrogenism, thyroid - pituitary - adrenal disorders, menopause and its treatment (HRT).
- Urological problems in Gynaecology - Diagnosis and management.
 - Urinary tract infection
 - Urogenital Fistulae
 - Incontinence
 - Other urological problems
- Orthopedic problems in Gynaecology.
- Menopause: management (HRT) and prevention of its complications.
- Endoscopy (Laparoscopy - Hysteroscopy)
 - Diagnostic and simple therapeutic procedures (PG students must be trained to do these procedures)
 - Recent advances in gynaecology - Diagnostic and therapeutic

- Pediatric, Adolescent and Geriatric Gynaecology
- Introduction to Advance Operative procedures.

2. Operative Gynaecology

- Abdominal and Vaginal Hysterectomy
- Surgical Procedures for genital prolapse, fibromyoma, endometriosis, ovarian, adenexal, uterine, cervical, vaginal and vulval pathologies.
- Surgical treatment for urinary and other fistulae, Urinary incontinence
- Operative Endoscopy

3. Family Welfare and Demography

- Definition of demography and its importance in Obstetrics and Gynaecology.
- Statistics regarding maternal mortality, perinatal mortality/morbidity, birth rate, fertility rate.
- Organizational and operational aspects of National health policies and programs, in relation to population and family welfare including RCH.
- Various temporary and permanent methods of male and female contraceptive methods.
- Knowledge of in contraceptive techniques (including recent developments).
 - Temporary methods
 - Permanent Methods.
 - Recent advances in contraceptive technology
- Provide adequate services to service seekers of contraception including follow up.
- Medical Termination of Pregnancy: Act, its implementation, providing safe and adequate services.
- Demography and population dynamics.
- Contraception (fertility control)

4. Male and Female Infertility

- History taking, examination and investigation.
- Causes and management of male infertility.
- Indications, procedures of Assisted Reproductive Techniques in relation to male infertility problems.