



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**

**Programme Structure and Course Details**

**Of**

**MS OBG 2022 onwards**

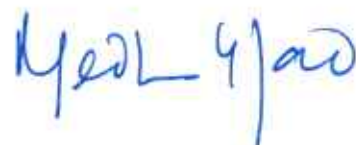
  
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M.S. Ramaiah University of Applied Sciences  
Bangalore - 560 054

**M.S. Ramaiah University of Applied Sciences**

**Ramaiah Medical College**



Principal and Dean  
M.S. Ramaiah Medical College and Hospital  
M.S. Ramaiah University of Applied Sciences  
Bangalore-560054



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**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

**M.S. Ramaiah University of Applied Sciences**

**Programme Specifications**

**MS OBG Programme 2022 onwards**

**Programme Code: MS146**

**M.S. Ramaiah University of Applied Sciences**

**Ramaiah Medical College**

*Shalini*

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*K. L. G. Rao*

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# University's Vision, Mission and Objectives

The M. S. Ramaiah University of Applied Sciences (MSRUAS) will focus on student-centric professional education and motivates its staff and students to contribute significantly to the growth of technology, science, economy and society through their imaginative, creative and innovative pursuits. Hence, the University has articulated the following vision and objectives.

## Vision

MSRUAS aspires to be the premier university of choice in Asia for student centric professional education and services with a strong focus on applied research whilst maintaining the highest academic and ethical standards in a creative and innovative environment

## Mission

Our purpose is the creation and dissemination of knowledge. We are committed to creativity, innovation and excellence in our teaching and research. We value integrity, quality and teamwork in all our endeavors. We inspire critical thinking, personal development and a passion for lifelong learning. We serve the technical, scientific and economic needs of our Society.

## Objectives

1. To disseminate knowledge and skills through instructions, teaching, training, seminars, workshops and symposia in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to equip students and scholars to meet the needs of industries, business and society
2. To generate knowledge through research in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to meet the challenges that arise in industry, business and society
3. To promote health, human well-being and provide holistic healthcare
4. To provide technical and scientific solutions to real life problems posed by industry, business and society in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences
5. To instill the spirit of entrepreneurship in our youth to help create more career opportunities in the society by incubating and nurturing technology product ideas and supporting technology backed business
6. To identify and nurture leadership skills in students and help in the development of our future leaders to enrich the society we live in
7. To develop partnership with universities, industries, businesses, research establishments, NGOs, international organizations, governmental organizations in India and abroad to enrich the experiences of faculties and students through research and developmental programmes

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Programme Specifications: MS Obstetrics & Gynaecology

Faculty	Ramaiah Medical College
Department	Obstetrics & Gynaecology
Programme	MS Obstetrics & Gynaecology
Programme Code	MS146
Dean of Faculty	Dr Shalini C Nooyi
Head of the Department	Dr Sujani B K

1. Title of the Award: MS in OBG
2. Mode of Study: Full-Time
3. Awarding Institution /Body: M. S. Ramaiah University of Applied Sciences, Bengaluru
4. Joint Award: Not Applicable
5. Teaching Institution: Ramaiah Medical College
6. Date of Programme Specifications: September 2022
7. Date of Programme approval by the academic Council of MSRUAS : 27<sup>th</sup> September 2022
8. Programme Approving Regulating Body and Date of Approval: National Medical Council of India
9. Rationale for the Programme

The purpose of PG education is to create specialists who would provide high quality healthcare in both Obstetrics & Gynecology through research & training. Obstetrics & Gynecology is specialized in providing community health care, Reproductive Medicine, Fetal Medicine, Minimal Invasive surgeries and Oncology. With a view to update, by inclusion of newer topics, and to provide a uniform syllabus and course contents in Indian universities and teaching medical institutions, the proposed guidelines provide course outlines based on recent developments in clinical medicine and other disciplines related to Obstetrics & Gynecology.

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## PROGRAM OUTCOMES (PO) FOR MS OBSTETRICS &amp; GYNAECOLOGY

## AT THE END OF THE PROGRAM THE STUDENT SHOULD BE ABLE TO :

- PO1.** Offer to the community the current quality of 'Standard care' in Obstetrics & Gynaecological diagnosis as well as therapeutics. Should be able to diagnose common Medical or surgical condition. (C, K, A)
- PO2.** Periodically self-assess his or her performance and keep abreast with on-going advances in the field and apply the same in his/her practice. (K, S)
- PO3.** Be aware of his or her own limitations to the application of the specialty in situations which warrant referral to major centres or individuals more qualified to treat. (K,A, C)
- PO4.** Effectively communicate with colleagues. (C)
- PO5.** Apply research and epidemiological methods during his/her practice. The candidate shall be able to present or publish work done by him/her. (K,C, A)
- PO6.** Contribute as an individual or in a group or institution towards the fulfilment of national objectives with regard to prevention of maternal mortality and morbidity and improving the neonatal outcome. (C, K, A,S)
- PO7.** Effectively communicate with patients or relatives so as to educate them sufficiently and give them full benefit of informed consent to treatment and ensure compliance. (K, C, A)



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**DEPARTMENT OF OBG**  
**PROGRAM SPECIFIC OUTCOME FOR POST GRADUATE STUDENTS**

This feedback form has been structured with reference to the Learning Outcomes for OBG defined by the National Medical Council of India in its competency-based curriculum for the MS program.

**PSO1.** Perform the medical interview and physical examination of women incorporating ethical, social, and diversity perspectives to provide culturally competent health care (K,P,C). Apply recommended prevention strategies to women throughout the life span (K,A). To decide on laboratory tests and other relevant investigations like ultrasound and CTG interpretation (K)

**PSO2.** To provide initial management of acute Obstetric and gynecological emergencies and decide on referring the patient in time for specialized care (K,C, A). To recognize and distinguish between normal and abnormal physiologic changes during pregnancy, diagnosis of early pregnancy and pathological conditions-such as abortion, ectopic, molar pregnancy and hyperemesis.(K,S)

**PSO3.** To acquire the skill to elicit clinical history and conduct a systematic physical examination in the diagnosis of common obstetric and gynaecological disorders.(K,S,C). To learn to integrate my knowledge in basic medical sciences like Anatomy, Physiology and Biochemistry with clinical data and its application in clinical practice.(K)

**PSO4.** To acquire the skill for diagnosis and management of high risk pregnancy, antenatal care, pelvic assessment ,diagnosis of CPD ,induction of labour, amniotomy, labour monitoring, partograph, conduction of delivery, suturing of episiotomy, assisting LSCS, forceps and vacuum delivery, apply knowledge of intra-partum and postpartum care ,lactational management.(K,A,S)

**PSO5.** To learn to perform simple routine procedures like per speculum, per vaginal examination and pap smear.(K,P) To acquire the skill to assist in gynaecological procedures such as colposcopy, hystero-laparoscopy using integrated knowledge of pre-operative care and procedures like MTP, tubectomy, major gynec surgeries-hysterectomy (K,S)

**PSO6.** To differentiate between normal and abnormal bleeding using knowledge of menstrual cycles physiology, puberty and menopause, outline the etiology and evaluation of infertility, have knowledge of contraception, sterilization and abortion.(K,C) To feel confident to communicate with patients and their attendants with due concern to empathy, ethics and professionalism. (K,C)

**PSO7.** To construct differential diagnosis of patients with common benign gynaecological conditions (K,C) To learn to prevent cancer cervix and HIV (K,C)



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Course- PO-PSO Mapping

Course Code and name	Program Outcomes							Program Specific Outcomes						
	POs							PSOs						
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
MSC505A Applied Basic sciences	3	3	2	3	2	3	3	3	2	3	2	3	3	3
MSC506A Obstetrics including social Obstetrics & Diseases of the new born	3	2	3	2	3	2	3	2	3	3	3	2	3	3
MSC507A Gynecology including fertility Regulation	3	3	2	3	3	2	3	3	2	3	2	3	3	3
MSC508A Recent advances in Obstetric & Gynaecology	3	3	3	3	3	2	2	3	3	2	2	2	3	2
MSC508A Thesis in Obstetric & Gynaecology	3	3	3	3	3	3	3	3	3	3	3	3	3	3

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**10. Regulations:****(A) Attendance, Progress and Conduct**

1. A candidate pursuing degree course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run or work in clinic/laboratory/nursing home while studying postgraduate course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.
2. Each year shall be taken as a unit for the purpose of calculating attendance. Attendance of 80% every term is mandatory for appearing in the final university examination.
3. Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.
4. Every candidate is required to attend a minimum of 80% of the training during each academic term of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every term.
5. Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

**(B) Monitoring of progress of Studies**

1. Work diary / Log Book - Every candidate shall maintain a work diary and record of his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. as per the model checklists and logbook specimen copy.
2. Special mention may be made of the presentations by the candidate as well as details of clinical or planning procedures, if any conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.
3. Procedure for defaulters: There will be a committee constituted by all teachers to review such situations. The defaulting candidate is counselled by the guide and head of the department. In extreme cases of default, the departmental committee may recommend that defaulting candidate will be withheld from appearing the examination, if she/he fails to fulfil the requirements in spite of being given adequate chances to set himself or herself right.



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### 11. Teaching Learning Methods:

1. The training of postgraduate for degree/diploma shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate should be required to participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Similarly, clinical subjects' students should be posted to basic medical sciences and allied speciality departments or institutions.

2. This being a highly dedicated PG specialty introducing several new concepts/subjects in the course, it is recommended to divide the entire course into two components consisting of First Year of BASIC CONCEPTS OF THE SPECIALTY and the next two years of INTENSIVE CLINICAL TRAINING IN THE SPECIALTY.

3. Didactic lectures are of least importance; seminars, journal clubs, symposia, reviews, and guest lectures should get priority for acquiring theoretical knowledge. Bedside teaching, grand rounds, interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning. Students should have hands-on training in performing various procedures and ability to interpret results of various tests/investigations.

4. Exposure to newer specialized diagnostic/therapeutic procedures should be given. Importance should be attached to ward rounds especially in conjunction with emergency admissions. Supervision of work in outpatient department should cover the whole range of work in the unit. It is particularly necessary to attend sub-specialty and symptom specific clinics. The development of independent skills is an important facet of postgraduate training. Joint meetings with physician colleagues, e.g. radiologists and pathologists play a valuable part in training.

5. The training techniques and approach should be based on principles of adult learning. It should provide opportunities initially for practicing skills in controlled or simulated situations. Repetitions would be necessary to become competent or proficient in a particular skill. The more realistic the learning situation, the more effective will be the learning.

6. Clinical training should include measures for assessing competence in skills being taught and providing feedback on progress towards a satisfactory standard of performance. Time must be available for academic work and audit. The following is a rough guideline to various teaching/learning activities that may be employed:

1. Intradepartmental and interdepartmental conferences related to case discussions.
2. Ward rounds along with emergency admissions.
3. Attendance at sub-specialty and Tumour Board
4. external rotation postings in departments like Medical Oncology, Surgical Oncology
5. Skills training



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6. Conferences, Seminars, Continuing Medical Education (CME) Programmes.

7. Journal Club

8. Research Presentation and review of research work.

9. A postgraduate student of a postgraduate degree course in broad specialties would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

10. Participation in workshops, conferences and presentation of papers etc.

11. Maintenance of records. Log books should be maintained to record the work done which shall be checked and assessed periodically by the faculty members imparting the training.

12. Postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

14 Department should encourage e-learning activities.

#### 12. Innovative teaching learning practices

1. Hands on training in the skill lab especially for minimally invasive surgeries including suturing techniques.

2. Focused discussion during journal club inculcates culture in the areas of research and publication

3. Faculty Lecture once a month helps in bridging the gap between what is presented during the month and what is not about particular topic. Also it reinforces learning



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**13. Assessment:** It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring will be done by the staff of the department based on participation of students in various teaching/learning activities.

1. Formative assessment includes methods like pedagogy, written exam, OSCE will be done. Impact: SWOT analysis can be done and timely counselling can be done.
2. Theory paper covering Basic Science in relation to Obstetrics & Gynaecology, Problem based Obstetrics, Gynaecology, Social Obstetrics, High risk Obstetrics and Family welfare.
3. Teaching skills: Candidates are encouraged to teach undergraduate medical students and paramedical students, if any. In addition, the second year student acts as a mentor for the immediate junior in all aspects of the course.
4. Pedagogy as a tool in formative assessment helps the student to be a better teacher.

#### Scheme of Examination

##### A. Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Name of the course	Course code	Topics	Mark s
Applied Basic sciences	MSC505A	Physiology	100
Obstetrics including social Obstetrics & Diseases of the new born	MSC506A	Anatomy , Physiology, Drugs and related pharmacokinetics and pharmacodynamics	100
Gynecology including fertility Regulation	MSC507A	Normal Antenatal care, high risk obstetrics and social obstetrics	100
Recent advances in Obstetric & Gynaecology	MSC508A	Normal gynecology, urogynecology, gynec oncology and infertility	100
Thesis in Obstetric & Gynaecology	MSP502A	Approval 6 month before final examination.	

Note: The distribution of chapters / topics shown against the papers are suggestive only.

##### B. Clinical 200 marks

There shall be two long cases and two short cases to be examined and presented by each candidate. Marks shall be 200.

##### Type of cases

Long cases: One case of Obstetrics and one case of Gynecology. Each case carries 75 marks.

Short cases: One case of Obstetrics and one case of Gynecology. Each case carries 25 marks.



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C. Viva Voce: 100 Marks

1) Viva-Voce Examination: (80 Marks)

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, dummies (pelvis, foetal skull), gross specimens, pathology slides, instruments, X- rays, ultrasound, CT scan images, NST etc., for interpretation. It includes discussion on dissertation also.

2) Pedagogy Exercise: (20 Marks)

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

D.

Maximum marks for	Theory	Practical	Viva	Grand Total
M.S. Obstetrics & Gynecology	400	200	100	700



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Annexure 1Competency List

- Following is the table where you will find the details
- Idea is to teach, assess in an on-going manner and document.
- K/S/A refers to Knowledge/skill/affective domain and what is mentioned is the predominant domain to gain that particular competency

Topics	Competency	Sub competency	K/S/A predominant and must know (M), Nice to know desirable to know (DS)	Teaching method	Assessment
Obstetrics & Gynaecology -Theoretical knowledge of Basic sciences  Examination and diagnosis of Obstetrics & Gynaecology cases.	-Knowledge of Anatomy, Physiology and Embryology of uterus, tubes and ovaries. -Knowledge of physiological changes in pregnancy and placental transfer.	To diagnose abnormalities of development of the uterus	S/M	DOAP	OMP
		To diagnose pregnancy clinically and any abnormalities. To provide routine antenatal care	S/M	DOAP	OMP
Surgical skill assisting in minor and major surgeries.	Gynaecological examination	To do gynaec examination and be familiar with common Gynaec instruments.	S/M	DOAP	OMP



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Induction of labour in normal and high risk pregnancy	Mechanical and chemical method.	S/M	DOAP	OMP		
	CTG assessment both normal and pathological	S/M	DOAP	OMP		
Maternal and fetal monitoring	Conduct delivery and episiotomy suturing.	S/M	DOAP			
Management of different stages of labour	To diagnose post partum hemorrhage, retained placenta, hemorrhagic shock and post partum collapse	S/M	DOAP			
Management of complications of third stage of labour	Diagnose complications of pregnancy including PIH, APH, GDM, Anemia and its associated complications, cardiac disorders and other associated medical complications of pregnancy	K/S/M	DOAP	OMP		
To diagnose abnormal and high risk pregnancy	Decision for cesarian delivery and instrumental delivery. To assist for cesarian deliveries.	S/M	DOAP	OMP		
To diagnose abnormalities of labour To diagnose common gynaecological problems	Perform gynaec examination and pap smear and to diagnose fibroid uterus, ovarian cyst, AUB.	S/M	DOAP			



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	To diagnose gynecological infections and STI	To perform wet mount preparation and treat accordingly. Syndromic management of STI.	S/M	DOAP		
	To diagnose the cause of infertility and its management	To retrieve history, Counseling the couple and to perform HSG and other investigations for diagnosis and its management.	S/M	DOAP		
	To diagnose different gynecological malignancies.	To evaluate for appropriate management like radiotherapy, chemotherapy and suitable surgeries.	S/M	DOAP		
	Surgical skills	To be able to perform episiotomy, to assist and perform under supervision LSCS, abdominal hysterectomy, vaginal hysterectomy, ovariectomy, cervical encircage, salpingectomy for ectopic pregnancy. To observe and assist cesarian hysterectomy, laparotomy, internal iliac ligation, operations for inversion of uterus, tuboplasty, myomectomy, ovarian debulking, operation, ventrofixation,	K/M	DOAP		

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		sling operations for prolapse, Wertheim hysterctomy, simple and radical vulvectomy and operation for stress incontinence.					
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## Annexure 2

MONTHWISE TEACHING SCHEDULE FOR POST GRADUATES DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

MONTH	SITE	Teacher
January	Case discussion, journal club, seminar, faculty lecture. Near miss, audit, perinatal morbidity and mortality, clinico-pathological meet.	Moderator
February		Moderator
March		Moderator
April		Moderator
May		Moderator
June		Moderator
July		Moderator
August		Moderator
September		Moderator
October		Moderator
November		Moderator
December		Moderator

**Note:**

1. The PG co-ordinator will put the time table monthly and assign the moderator for the class everyday.
2. It is preferable to put the time table latest by 20<sup>th</sup> of previous month.
3. PGs are expected to keep in touch with the respective teachers well ahead of the class.



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## Annexure 3

SEPTEMBER 2023 TEACHING SCHEDULE FOR POST GRADUATES

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Clinical society meeting	2 rounds
3 Sunday	4 LSCS audit	5 Skill lab	6 Journal club	7 Academic meet by guest speaker	8 Clinical society meeting	9 rounds
10 Sunday	11 Case presentation	12 Long seminar-I	13 Long seminar-II	14 Near-miss meeting	15 Clinical society meeting	16 rounds
17 Sunday	18 General holiday	19 Short seminar	20 Small group discussion	21 PNM meeting	22 Clinical society meeting	23 rounds
24 Sunday	25 CPC	26 Case presentation	27 LSCS Audit	28 Drug review	29 Clinical society meeting	30 rounds

## Instructions:-

- All classes will be based on discussion
- Students should discuss with moderator prior to the class and present
- The student shall discuss with the teacher atleast 3-5days before the date of the class.
- The doubts will be discussed during and after the presentation. Further doubts will be clarified on the next day before starting the class.

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ANNEXURE – 4DEPARTMENT OF OBSTETRICS & GYNAECOLOGYPOLICY FOR OUTSIDE PG POSTINGSYear wise PG Posting

1. 1<sup>st</sup> year students are posted for 3 months in labour room and the rest in the units. There is rotation of the post graduates to all the 3 units once in 3 months.
2. 2<sup>nd</sup> year students are posted for 3 months in labour room and will be posted to other departments- Paediatrics for 15 days, Radiology for 15 days, Surgical oncology for 15 days, Radiotherapy for 15 days and Anaesthesia for 15 days.
3. During the third year students will be posted for 3 months in labour room and the rest in the units on rotation basis.
- 4.



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Annexure 5

Logbook entry

Date	
Setting/method	
Presented/attended	
Summary in brief	
Reflection	
Teachers comments	

Student's signature

Guide's Signature



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ANNEXURE-6

Postgraduate Students Appraisal Form Name of the PG Student Period of Training  
Duration:.....to.....

Sl. No	Particulars	Not satisfactory (1,2,3)	Satisfactory (4,5,6)	More than Satisfactory (7,8,9,10)	Remarks
1	Journal based learning				
2	Patient care and rounds				
3.	Bedside teaching, Clinical seminars				
4.	Communication skills				
5.	Log book				
6.	Thesis work				
7.	CME/Outreach programmes/Conference presentations				
8.	Self-directed learning				
9.	Under-graduate teaching				
10.	Research/Publication				

Sign of the student

Sign of the assessor

Sign of Head of the Department

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# Course specifications

## MS OBG 2022 onwards

### Course Code: MSC505A



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Course Specifications

Course Title	Applied Basic sciences
Course Code	MSC505A
Department	Obstetrics & Gynaecology
Faculty	Ramaiah Medical College

Course summary:

This course is designed in such a way that the student will master the basics of pelvic anatomy, physiology and pharmacology of commonly used drugs in obstetrics & Gynaecology

Course Outcomes:

**CO 1:** Be well versed with the Anatomy and development of the female Reproductive tract. Development of fetus and placenta (K)

**CO 2:** Should know about the placental drug transfer and the effect of drugs on mother and fetus(K)

**CO 3:** Should know the structure synthesis, functions and metabolism of the Gynaecological hormones(K)

Course Contents

It includes topics not only of obstetrics and Gynaecology but also those aspects of Medicine, Surgery, Pediatrics, applied Anatomy Physiology, Pathology, Pharmacology and Microbiology relevant to the practice of both Obstetrics and Gynaecology. It is intended as a guide to the candidates and it is not comprehensive. As and when there is newer development it becomes eligible for inclusion. Hence the candidates should familiar themselves with the current content of the scientific journals and reviews of major topics.

**Basic Sciences****Genetics**

- Normal and abnormal Karyo types
- Problems of intersex
- Genetic causes of infertility and early pregnancy loss
- Genetic aspects of artificial insemination

**Anatomy Including Embryology**

Gametogenesis, Ovulation, fertilization, implantation, development of foetus and placenta. Development of male and female genital tract. Problems of abnormal development of genital tract in Obstetrics and Gynaecology. Anatomy of Urogenital system, including pelvic musculature. Blood supply, innervation and Lymphatic drainage of the pelvis and reproductive organs.



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Pathology

Pathology of inflammatory disease, degenerative and neoplastic disease of vulva, vagina, cervix and uterus, fallopian tubes, Ovaries and broad ligament

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**Haematology**

Blood groups, Rh factor, incompatibility, Blood transfusion.

**Biochemistry**

Steroid and prostaglandin synthesis and metabolism in mother and foetus. Maternal and foetal carbohydrate, lipid, amino-acid metabolism and iron metabolism. Synthesis and secretion of foetal pulmonary surfactant.

**Endocrinology**

Structure, synthesis, function, metabolism and principles of assay of hormones, produced from hypothalamus, Anterior and posterior pituitary, Thyroid, Pancreas, Adrenal cortex, adrenal medulla, Ovary, Testis, and placenta.

**Pharmacology**

Placental transfer of drugs and its effects on mother and foetus, Eg: Antibiotics, anti hypertensives, Psychotropic drugs, Oral contraceptives, Chemotherapeutic drugs, Anticonvulsants, Anti coagulants and Oxytocic drugs, effects of tobacco and alcohol on pregnant mother and foetus. Teratogenic effect of drugs taken during lactational period.

**Immunology**

Basic immunology including primary and secondary immune response, mechanism of antibody production. HLA system and graft rejection. Change in pregnancy and the foetus as a graft. Immunological pregnancy tests. Rhesus and other Isoimmunisation. Active and passive immunisation and Auto immune disease.

**Microbiology**

Epidemiology and pathophysiology of disease developing in pregnancy that is Septic abortion, Preterm labour, PROM, Puerperal sepsis, Mastitis, Septic shock and Neonatal sepsis. Microbiology of TORCH infection, Syphilis, Chlamydia, Mycoplasma, hepatitis and HIV.

Maternal physiological changes during pregnancy

1. Fluid and electrolyte balance.
2. Changes in respiratory, Cardio vascular system.
3. Changes in Gastro-intestinal system – including liver and pancreas.
4. Change in urinary system
5. Hematological changes including coagulation mechanism and fibrinolytic system

**Teratology**

Mechanisms of teratogenesis. Effect of possible teratogens – drugs virus radiation and other agents.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes							Program Specific Outcomes						
		POs							PSOs						
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
MSC505A Applied Basic sciences	CO 1	3	3	3	3	2	2	3	3	2	2	2	2	2	3
	CO 2	3	3	3	2	3	3	3	3	2	2	2	2	2	3
	CO 3	3	3	3	3	3	2	2	3	3	3	2	3	3	2



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## Course specifications

MS OBG 2022 onwards

Course Code: MSC506A



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Course Specifications

Course Title	Obstetrics including social obstetrics and Diseases of New Born
Course Code	MSC506A
Department	Obstetrics & Gynaecology
Faculty	Ramaiah Medical College

Course Summary:

This course is designed in such a way that the student will master in diagnosis of pregnancy and high risk pregnancy and its associated complications and management. Monitoring and management of labour and its complications.

Course Outcomes:

**CO 1:** Should be able to diagnose both low risk of high risk pregnancy. Should have a thorough knowledge about the labour and its monitoring and management (K.C.P.)

**CO 2:** Should be able to manage abnormal labour and its complications associated (K.C.P)

**CO 3:** To be well versed with all the MH related National programme and community based maternal health care (K.C)

**CO 4:** To be able to diagnose common diseases of the newborn(K,C)

Course Content:Antenatal care

Includes diagnosis, of pregnancy, Identification of high risk group of mothers and foetus with different modality of investigation. Clinical monitoring or maternal/foetal welfare and selection of place of delivery.

Physiology of Labour

Causation of onsets of labour

Intrapartum care

Maternal and foetal monitoring

Mechanism and management of normal labour

Abnormal pregnancy

1. Medical diseases and disorders complicating pregnancy and child birth
2. Obsteric complications of pregnancy
3. Multiple pregnancy
4. Congenital malformations
5. Foetal growth retardation
6. Repeated pregnancy loss
7. Preterm labour
8. Prolonged pregnancy
9. Malpresentations
10. Shock and collapse
11. Ectopic pregnancy
12. Rh incompatibility

Abnormalities of Labour and Delivery

Includes induction of labour and abnormal uterine action



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**Social Obstetrics**

Study of interplay of social and environmental factors and human reproduction going back to premarital a preconception period.

1. Implementing safe motherhood initiative.
2. Community maternal health care
3. Antenatal checkup
4. MCH problems
5. Risk approach of pregnant women  
Anaemia, STD syphilis, tetanus, AIDS.
6. Domiciliary care
7. Postnatal complications
8. Low birth weight (L.B.W.)
9. Socio economic status and birth weight correction
10. Infant feeding
11. Road to health chart and school health programme.
12. Pre pregnancy and post pregnancy counseling
13. Reproductive and child health (RCH)
14. National Health Programmes

Family welfare programmes including Reconstructive surgeries

Temporary methods like

1. Chemical contraceptives
2. Barrier methods
3. Hormonal contraception
4. IUD

Permanent methods like

1. Tubectomy
2. Laparoscopy tubal ligation
3. Minilap

Reconstructive surgeries like

1. Tuboplasty
2. Vaso Vasotomy

Perinatology

1. The term new born infant
2. Low birth weight baby, - Preterm, - IUGR
3. Asphyxia neonatorum
4. Respiratory distress
5. Jaundice in new born
6. Haemorrhagic disease of new born
7. Convulsions in new born
8. Injuries of the new born
9. Infection of new born
10. Diarrhea in new born
11. Vomiting of the new born
12. Congenital malformation of new born

**Neonatal**

Early neonatal complication, infection and management.

**Mortality and Morbidity**

Epidemiology, Magnitude of the problem, causes, prevention and management of Maternal and morbidity. Perinatal mortality,

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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes							Program Specific Outcomes						
		POs							PSOs						
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
MSC506A Obstetrics including social obstetrics and Diseases of New Born	CO 1	3	3	3	3	2	3	2	3	3	3	3	2	3	2
	CO 2	3	3	2	2	3	2	3	3	3	3	2	2	2	3
	CO 3	2	3	3	2	3	3	2	2	2	2	3	3	2	3
	CO 4	3	2	2	3	3	3	2	3	3	3	3	2	3	3



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# Course specifications

## MS OBG 2022 onwards

### Course Code: MSC507A



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Course Specifications

Course Title	Gynecology including fertility Regulation
Course Code	MSC507A
Department	Obstetric & Gynaecology
Faculty	Ramaiah Medical College

Course Summary:

The course is designed in such a way that the student will master in diagnosing common gynecological problem and its management and also to know about all the family welfare programmes

Course Outcomes:

**CO 1:** Should be able to diagnose common gynecological problem by performing abdominal & pelvic examination (K,P,C)

**CO 2:** Should be able to observe and assist in Gynecological surgeries (K,A)

**CO 3:** Should be confident about all family welfare programmes including temporary and permanent methods(K.C)

Course Content:Gynaecology

History taking with special reference to Gynaecological history, abdominal and pelvic examination, relevant investigation to arrive at most probable diagnosis.

Topics includes: Infection, Newgrowths (both benign and malignant) and other pathological disorders of vulva, vagina, urinary bladder, cervix, uterus, fallopian tubes, Ovaries and Pelvic cellular tissues including STD and HIV.

Adolescent Gynaecology

Menstrual disorders, including amenorrhoea, menopause, postmenopausal

Gynaecological problems and management of the aged and elderly women.

Chromosomal disorders – including intersex

Gynaecologic clinical cytopathology.

Contraception and family planning.

Infertility and ART

Hormones therapy.

Problem of sex and marriage



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes							Program Specific Outcomes						
		POs							PSOs						
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
MSC507A Gynecology including fertility Regulation	CO 1	3	3	2	3	2	3	3	3	3	3	2	2	3	2
	CO 2	3	3	3	2	3	2	2	3	3	2	3	3	2	3
	CO 3	3	2	2	2	3	3	3	3	3	3	2	2	3	



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## Course specifications

### MS OBG 2022 onwards

### Course Code: MSC508A



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Course Specifications

Course Title	Recent advances in Obstetric & Gynaecology
Course Code	MSC508A
Department	Obstetric & Gynaecology
Faculty	Medicine

Course Summary:

The course is designed in such a way that the student will master recent developments in Obstetric & Gynaecology.

Course Outcomes:

**CO 1:** Should be able to diagnose disorders of sexual differentiation (D & D) and plan for appropriate management (K,A)

**CO 2:** Should be able to find the probable course of infertility and plan for ART (K,C)

**CO 3:** Should be able to upgrade their knowledge about recent drugs, intervention and trials related to Obstetrics and gynecology(K,A)

Course Content:**Essential Research Skills**

- i. Basic statistical knowledge.
  - a. Ability to undertake clinical & basic research
  - b. Descriptive and inferential statistics
  - c. Ability to publish results of one's work.
- ii. This could be achieved during the course by attending workshops on research methodology, basic statistics classes and regularly having journal clubs etc., where selected articles are taken and evaluated for content quality and presentation.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes							Program Specific Outcomes						
		POs							PSOs						
		PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7
MSC508A Recent advances in Obstetric & Gynaecology	CO 1	3	3	2	3	2	2	3	3	2	3	2	3	3	3
	CO 2	3	3	2	3	3	2	2	3	3	3	2	2	3	2
	CO 3	3	3	2	3	2	3	3	2	3	3	2	2	2	3



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# Course specifications

## MS OBG 2022 onwards

### Course Code: MDP502A



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Course Specifications

Course Title	Thesis in Obstetrics & Gynaecology
Course Code	MSP502A
Department	Obstetrics & Gynaecology
Faculty	Medicine

Course Summary:

The course is designed in such a way that the student will master the science of research in terms of designing, conducting and interpreting the results.

Course Outcome:

- CO 1: Should be introduced to basic research methodology(K,C)
- CO 2: Should be able to independently write the thesis within the stipulated time  
(K,C,A,P)
- CO 3: Should follow ethical principles related to research (K,A)

Course details:Dissertation

Every candidate pursuing degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review, of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every candidate shall submit to the Registrar (Academic) of RGUHS, in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

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The dissertation should be written under the following headings:

1. Introduction
2. Aims or Objectives of study
3. Review of Literature
4. Material and Methods
5. Results
6. Discussion
7. Conclusion
8. Summary
9. References
10. Tables
11. Annexures

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper 9 (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

For some more details regarding Guide etc., please see Chapter I and for books on research methodology, ethics, etc., see Chapter IV.



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Course Mapping (CO-PO-PSO Mapping)

Course Code and name	Course Outcome	Program Outcomes							Program Specific Outcomes						
		POs							PSOs						
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
MDP502A Thesis-Obstetrics & Gynecology	CO 1	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO 2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3



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Course Materials:

## a) Recommended Books

Sl. No.	Name of the Author	Name of the Book	Edition	Name of the Publications
1.	IAN Donald	'Practical Obstetrics problems'	5th Edn.	B.A.Publication
2.	Farnandes Aris	'Practical guide to high risk pregnancy & delivery'		Mosby Publications
3.	William's	'Text book of Obstetrics'	21st Edn.	(not known)
4.	Holland	'Manual of Obstetrics'		B.I.P. Publications
5.	Jeffcoat's	'Principles of Gynaecology'	5th Edn.	Butterworth Heighmen
6.	Shaw's	Text book of Gynaecology'	12th Edn.	B.L. Churchill Livingston.
7.	Dutta	'Text book of Gynaecology'	2nd Edn.	Central Publications.
8.	Parulekar	'Practical Gynaecology & Obstetrics'	Latest Edn.	Vora Publications
9.	Munrokar's	'Operative Obstetrics'	10th Edn.	A.T.B.S. Publi.
10.	Telend's	'Operative Gynaecology'	8th Edn.	Lipincortriven Publications.
11.	Barus or cell and Burrows	'Medical disorders in Obstetrics practice'	3rd Edn.	Blackwell science Publications
12.	Rathnam	'Obstetrics and Gynaecology'	2nd Edn.	Orient Longmen Publications
13.	Arul kumar	'The management of labour	1st Edn.	Orientlongmen Publications
14.	Bhaskar Rao	'Clinical Gynaecology'	4th Edn.	Orient Longmen Publications
15.	C.S. Dawn	'Text books of Obstetrics and Neunatology'	13th Edn.	B.B. Publications
16.	C.S. Dawn	'Text books of Gynaecology and contraception'	13th Edn.	B.B. Publications
17.	J. Studd	'Progress in Obstetrics and Gynaecology	Latest Edn.	I.S.E. Publications.
18.	Padubidri	'Text book of Obstetrics'	1st Edn.	C.B.S. Publications
19.	Novak's	'Gynaecology'	12th Edn.	Williams and Willkins Publications
20.	Dewhurst	'Obstetrics and Gynaecology'	5th Edn.	Blackwell Science
21.	Speroff	'Clinical Gynaecologic Endocrinology and infertility'	6th Edn.	Lippincot Publications
22.	Boney's	'Gynaecological surgery'	9th Edn.	A.I.T.B.S. Publications
23.	Callen	'Ultrasonography'		C.B.S. Publications
24.	Desai	Infertility and sonography'		J.P. Publications
25.	R. Rajan	Reproductive endocrinology'		J.P. Publications
26.	Williams	'Endocrinology'		W.B.S. Publications
27.	Pall-P.G.	'Manual of operative laproscope'		Modern Publications
28.	J. Samuel	'Clinical sonography'		J.D.P. Publications
29.	Kistner's	'Gynaecology-Principles and practice'	6th Edn.	Hercoat Brey's Asia Publications
30.	Macher and Moor	'Essentials of Obstetrics and Gynaecology'	3rd Edn.	W.B. Sunder's Publications

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**Journals**

1. Journal of FOGSI
2. Clinics of Obstetrics & Gynecology- North America
3. Fertility and Sterility
4. British Journal of Obstetrics & Gynecology
5. American Journal of Obstetrics & Gynecology
6. American association of gynecology laproscopy
7. Obstetrics & Gynecologic clinic
8. Current opinion in Obstetrics & Gynecology
9. Briggs update: Drugs in pregnancy & lactation.
10. Operative technique in gynecologic surgery

**ADDITIONAL READING**

1. Indian Council of Medical Research, "Ethical Guidelines for Biomedical Research on Human Subjects", I.C.M.R, New Delhi, 2000.
2. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
3. Francis C M, Medical Ethics, J P Publications, Bangalore, 1993.
4. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
5. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8
6. Kirkwood B R, Essentials of Medical Statistics , 1st Ed., Oxford: Blackwell Scientific Publications 1988.
7. Mahajan B K, Methods in Bio statistics for medical students, 5th Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
8. Compendium of recommendations of various committees on Health and Development (1943-1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, min. of Health and Family Welfare, Govt. of India, Nirman Bhawan, New Delhi. P - 335.
9. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
10. Srinivasa D K etal, Medical Education: Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry

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