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CHAPTER NOTES

Reproductive Health Class 12 Notes — CBSE Biology Chapter 4

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Reproductive Health Class 12 Notes — CBSE Biology

Chapter 4

Chapter 4 — **Reproductive Health** — covers population control, contraception, STDs, infertility, and assisted reproductive technologies. This chapter carries **5-7 marks** and is largely factual with important social relevance.

Key Concepts

Contraceptive Methods

Category	Method	Examples/Details
Natural/Traditional	Periodic abstinence	Avoid intercourse during days 10-17 of cycle (fertile window)
	Coitus interruptus	Withdrawal before ejaculation
	Lactational amenorrhea	Breastfeeding prevents ovulation (up to 6 months)
Barrier	Condoms (M/F)	Also prevent STDs; most popular method
	Diaphragm, cervical cap	Cover cervix; used with spermicides
IUDs	Non-medicated	Lippes loop — increases phagocytosis of sperms
	Copper-releasing	CuT, Cu7, Multiload 375 — Cu ions reduce sperm motility
	Hormone-releasing	Progestasert, LNG-20 — make uterus unsuitable for implantation
Hormonal	Oral pills	Saheli (centchroman) — non-steroidal, once-a-week pill developed in India
	Injections/implants	Progestogens — prevent ovulation
Surgical (Sterilisation)	Vasectomy (male)	Vas deferens cut and tied — blocks sperm transport
	Tubectomy (female)	Fallopian tubes cut and tied — blocks egg transport

Saheli — developed at CDRI Lucknow; non-steroidal, once-a-week, very few side effects. A favourite exam fact!

Sexually Transmitted Diseases (STDs/STIs)

Disease	Causative Organism	Type	Symptoms
Gonorrhoea	Neisseria gonorrhoeae	Bacteria	Urethral discharge, pain during urination
Syphilis	Treponema pallidum	Bacteria	Painless ulcer (chancre), rash, can affect brain
Chlamydiasis	Chlamydia trachomatis	Bacteria	Urethritis, may cause infertility
Genital herpes	Herpes simplex virus	Virus	Painful blisters on genitals
Genital warts	Human papillomavirus (HPV)	Virus	Warts on genitals; linked to cervical cancer
HIV/AIDS	Human immunodeficiency virus	Virus	Destroys helper T-cells → immunodeficiency
Hepatitis B	Hepatitis B virus	Virus	Liver damage
Trichomoniasis	Trichomonas vaginalis	Protozoan	Vaginal discharge, itching

Infertility & Assisted Reproductive Technologies (ART)

Technique	Description
IVF (Test tube baby)	Fertilisation outside body → embryo transferred to uterus (ET)
ZIFT	Zygote transferred to fallopian tube (at zygote stage)
GIFT	Gamete (ovum from donor + sperm) transferred to fallopian tube
ICSI	Single sperm injected directly into ovum (for low sperm count)
AI (Artificial Insemination)	Semen collected and introduced into uterus (IUI)
Surrogacy	Embryo implanted in another woman's uterus

Population Control — India

- India was the first country to adopt family planning (1951)
- RCH (Reproductive and Child Health) programme by government

- Statutory raising of marriageable age: Males 21, Females 18
- Incentives for small family norm; free contraceptives

Medical Termination of Pregnancy (MTP)

- Legal in India (MTP Act, 1971) up to 20 weeks (extended to 24 weeks in 2021 for special categories)
- Permitted for: failure of contraception, rape, risk to mother's health, foetal abnormalities
- Misuse: illegal sex-selective abortions → Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act to prevent sex determination

Important Definitions

Term	Definition
Reproductive Health	Total well-being in all aspects of reproduction — physical, emotional, social
IVF	In Vitro Fertilisation — fertilisation outside body in lab conditions
Amniocentesis	Foetal test for genetic disorders (banned for sex determination in India)
Infertility	Inability to conceive after one year of unprotected intercourse

Solved Examples — NCERT Based

Example 1

Q: Why are condoms considered the best contraceptive?

Solution: Condoms are preferred because they: (1) prevent pregnancy (barrier method), (2) protect against STDs including HIV/AIDS, (3) are easily available, (4) have no side effects, (5) do not require medical supervision.

Example 2

Q: Differentiate between ZIFT and GIFT.

Solution: ZIFT (Zygote Intra-Fallopian Transfer): fertilisation is done in the lab (IVF) → zygote/early embryo (up to 8 cells) is transferred to the fallopian tube. GIFT (Gamete Intra-Fallopian Transfer): unfertilised ovum from a donor female and sperm are directly transferred into the fallopian tube → fertilisation occurs inside the body.

Important Questions for Board Exams

1 Mark

1. What is Saheli?
2. Name two STDs caused by bacteria.
3. What is amniocentesis?

3 Mark

1. Describe the different types of contraceptive methods.
2. What are the causes of infertility? Describe any two ART procedures.

5 Mark

1. What is reproductive health? Discuss the various contraceptive methods with their advantages and disadvantages.

Quick Revision Points

- Contraceptives: natural (abstinence, LAM), barrier (condom), IUD (CuT), hormonal (Saheli), surgical (vasectomy/tubectomy)
- Only condoms protect against STDs
- STDs: bacterial (gonorrhoea, syphilis) + viral (HIV, herpes, HPV, Hep B)
- ART: IVF-ET, ZIFT, GIFT, ICSI, AI/IUI
- IVF = fertilisation outside; GIFT = gamete transfer (fertilisation inside)
- MTP legal up to 20 weeks; PCPNDT Act bans sex determination
- Saheli: non-steroidal, once/week, CDRI Lucknow

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