FAMILY PLANNING EXAM NOTES

Colorful formatted PDF compiled from the formatted answers

Bold keywords • Color-coded headings • Clean exam layout

Contents

[Legend: 2019-New/2019-Old = 2019 Scheme New/Old pattern; 2010 = 2010 Scheme; P-I/P-II = Paper I/Paper II]

QUESTION 1 [Jan 2026 2019-New P-II; Jun 2024 2019-Old P-I & P-II; Aug 2022 2010 P-I]

Define family planning. Explain its importance in maternal and child health. Add a note on eligible couple, cafeteria approach and unmet need for contraception.

ANSWER

FAMILY PLANNING

Definition

The **World Health Organization (WHO)** defines **family planning** as "**a way of thinking and living that is adopted voluntarily, upon the basis of knowledge, attitudes and responsible decisions by individuals and couples, in order to promote the health and welfare of the family group and thus contribute effectively to the social development of a country**".

Objectives of Family Planning

Family planning refers to practices that help individuals or couples attain certain **objectives**:

- To **avoid unwanted births**.
- To **bring about wanted births**.
- To **regulate the intervals** between pregnancies (**spacing**).
- To **control the time** at which births occur in relation to the ages of the parents.
- To **determine the number of children** in the family.

IMPORTANCE IN MATERNAL AND CHILD HEALTH (MCH)

Family planning has a striking positive impact on the health of both the **mother** and the **child**. It is an essential component of **MCH services**.

Importance for Maternal Health:

- **Reduces Maternal Mortality and Morbidity:** By preventing **unplanned** and **unwanted pregnancies**, it decreases the risk of **maternal death** and complications related to **pregnancy**, **childbirth**, and **unsafe abortions**.
- **Prevents Maternal Depletion:** Proper **spacing** allows the mother's body to recover **physically** and **nutritionally** between pregnancies, preventing **maternal depletion syndrome** and **anaemia**.
- **Postpones Early Pregnancies:** Prevents **teenage pregnancies** which carry a high risk of **maternal morbidity**, **eclampsia**, and complications like **cephalopelvic disproportion**.
- **Limits Parity:** Restricting the total number of children reduces the hazards associated with **high parity** (**grand multipara**), such as **severe anaemia**, **postpartum haemorrhage**, and **obstetric complications**.

Importance for Child Health:

- **Reduces Infant Mortality Rate (IMR) and Perinatal Mortality: Family limitation** and **spacing of births** contribute substantially to lowering the **IMR**.
- **Improves Child Survival:** The risk of death is greatly enhanced if the last child was born less than **2 years ago**, and if the mother already has **four or more children**. **Smaller sibship** and **longer spacing** between pregnancies are associated with improved **infant** and **child survival**.
- **Improves Nutritional Status:** Fewer children in the family allow for better **maternal care**, a better share of **family resources**, adequate **breastfeeding**, and a lower incidence of **protein-energy malnutrition** and **low birth weight babies**.
- **Reduces Infections: Overcrowding** and a higher number of siblings increase the risk of **infectious diseases**. Proper **spacing** reduces the transmission of infections like **severe respiratory infections** and **diarrhoea** among children.

ELIGIBLE COUPLE

- **Definition:** An **eligible couple** refers to a currently married couple wherein the wife is in the **reproductive age group**, which is generally considered to be **15-45 years** of age.
- **Significance:** These couples are in immediate need of **family planning services** and are the primary target group for **contraceptive distribution** and **motivation**.
- **Demography:** In India, there are approximately **150 to 180 eligible couples per 1000 population**.
- **Target Couple:** A sub-category of **eligible couples** who have **two or more living children** and are targeted for **terminal/limiting methods of contraception**.

CAFETERIA APPROACH

- **Concept:** The **cafeteria approach** in family planning means to offer all available methods of **contraception** a **"cafeteria choice"** to the individual or eligible couple.
- **Advantages:** It provides a wide range of **contraceptive options** (**spacing** and **terminal methods**) so that the individual can make an **informed** and **voluntary choice** according to their **personal needs**, **physical suitability**, and **socioeconomic circumstances** without any **coercion**.

UNMET NEED FOR CONTRACEPTION

Definition

Unmet need for family planning is defined as the percentage of women of reproductive age (**15–49 years**), either married or in a union, who are sexually active and would prefer to **avoid** or **delay becoming pregnant**, but are not using any **modern** or **traditional method of contraception**.

Calculation / Formula

Unmet Need = (Women of reproductive age who are married/in a union and who have an unmet need for family planning / Total number of women of reproductive age who are married/in a union) × 100.

Common Reasons for Unmet Need

- **Lack of information** or awareness regarding **contraceptive methods**.
- **Fear about side effects** and **health hazards** of contraceptives.
- **Inconvenient or unsatisfactory services** in the **healthcare system**.
- **Opposition from husband** or older family relatives.
- **Religious beliefs** and **cultural factors**.

Determinants and Exam Points

- **Residence: Unmet need** is typically higher in **rural areas** than in **urban areas**.
- **Education:** It inversely correlates with **female literacy**; low levels of education among women lead to a higher **unmet need**.
- **Age:** According to **NFHS data**, the unmet need for family planning is highest among young women between **15 to 24 years** of age, mostly for **spacing** the births, while among women aged **30 years and above**, it is mostly for **limiting** births.

QUESTION 2 [Jan 2026 2019-New P-II; Mar 2025 2010 P-I; Feb 2023 2010 P-I; Aug 2022 2010 P-I]

A couple comes to you for family planning advice after having one child / after recent delivery. How will you counsel them? Discuss suitable contraceptive methods, their advantages and disadvantages.

ANSWER

COUNSELING APPROACH FOR THE COUPLE

For a couple with one child or after a recent delivery, the primary goal of family planning is to ensure **spacing** between pregnancies (**ideally 3 to 5 years**) to promote **maternal recovery** and **child survival**.

The counseling should follow the **GATHER approach** and the **Cafeteria approach**:

- **G - Greet** the client.
- **A - Ask** about their needs, problems, and reproductive goals.
- **T - Tell** them about different available methods to solve their problems (implementing the **Cafeteria approach** by offering all appropriate choices without coercion).
- **H - Help** the client make a voluntary and informed decision.
- **E - Explain** fully how to use the chosen method, its side effects, and precautions.
- **R - Return** for a follow-up visit.

Special Postpartum Considerations:

- A contraceptive must be chosen that will **not affect lactation** (**quality or quantity of breast milk**) if the mother is breastfeeding.
- **Combined Oral Contraceptive Pills (COCPs)** should generally be **avoided** in lactating mothers during the **first 6 months** as they suppress lactation.

SUITABLE CONTRACEPTIVE METHODS (SPACING METHODS)

Based on the **National Family Welfare Programme**, the following **spacing methods** are suitable for a couple with one child or after recent delivery:

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1. Intrauterine Contraceptive Devices (IUCD - Copper-T 380A / Cu 375)

Can be inserted immediately postpartum (**within 48 hours**), or after **6 weeks of delivery** (**interval insertion**).

Advantages:

- **Long-term effectiveness: Cu-T 380A** provides protection for **10 years** (**cost-effective**).
- **Safe during breastfeeding:** Does not interfere with **lactation**.
- **Highly effective** immediately after insertion with a very low failure rate (**0.5–0.8 per 100 woman-years**).
- **Reversibility:** Fertility returns promptly upon removal.
- Does not require a **daily routine** or action before **coitus**.

Disadvantages / Side Effects:

- Requires a **trained healthcare provider** for insertion and removal.
- Can cause **heavy bleeding (menorrhagia)**, **mid-cycle bleeding**, and lead to **anaemia**.
- Risk of **pelvic pain**, **lower abdominal cramps**, and **backache**.
- Small risk of **expulsion**, **uterine perforation**, or **pelvic inflammatory disease (PID)**.
- Does not protect against **Sexually Transmitted Diseases (STDs) / HIV**.

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2. Progestogen-Only Pills (POPs / Mini Pills)

Contain only **synthetic progesterone** (e.g., **Levonorgestrel** or **Desogestrel**).

Advantages:

- **Safe for breastfeeding women:** Does not adversely affect the **quantity**, **quality**, and **composition of breast milk**.
- Can be started safely **earlier than 6 weeks** postpartum.
- Safe for women in whom **estrogen is contraindicated**.

Disadvantages / Side Effects:

- Requires **strict daily adherence** (must be taken at the **exact same time every day**).
- Commonly causes **irregular and unexpected bleeding**, **prolonged bleeding**, or **amenorrhea**.
- Contraceptive efficacy reduces marginally once **breastfeeding is stopped**.

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3. Injectable Contraceptives (DMPA / Antara Programme)

Depot Medroxyprogesterone Acetate (DMPA) 150 mg given **intramuscularly** or **subcutaneously** every **3 months**.

Advantages:

- **Long-acting:** One injection provides protection for **3 months** (requires no daily routine).
- **Safe in lactation:** Can be safely used after **6 weeks postpartum** without affecting **breast milk**.
- **Highly effective** and completely **reversible**.
- Provides a **private** and **confidential** method of contraception.

Disadvantages / Side Effects:

- **Delayed return of fertility:** Takes an average of **7 to 10 months** from the date of the last injection for fertility to return.
- Causes **menstrual irregularities**, typically resulting in **unpredictable bleeding** followed by **amenorrhea**.
- Risk of **weight gain**.
- Must be repeated every **3 months**; action cannot be stopped immediately once injected.

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4. Centchroman (Ormeloxifene / Chhaya)

A **non-steroidal**, **non-hormonal oral contraceptive pill**.

Advantages:

- **Convenient dosage:** Taken **once a week** (after an initial **twice-a-week schedule** for the first **3 months**).
- **Safe during lactation:** Does not affect **breast milk**.

- **No hormonal side effects:** Free from **weight gain**, **nausea**, or adverse **metabolic/lipid alterations**.
- **Quick reversibility of fertility** upon discontinuation.

Disadvantages / Side Effects:

- Can cause a **delay in the menstrual cycle** or **scanty periods** in some users (usually subsides).
- Requires a fair level of understanding to correctly follow the **weekly schedule**.

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5. Barrier Methods (Condoms / Nirodh)

Physical **barrier methods** to be used by the **male partner**.

Advantages:

- **Protects against STDs and HIV/AIDS** (**dual protection**).
- No **systemic side effects** or **hormonal risks**.
- Safe to use during **breastfeeding**.
- Easily available, inexpensive, and easy to use without **medical supervision**.

Disadvantages / Side Effects:

- Higher **failure rate** (**2-14 pregnancies per 100 woman-years**) if not used correctly.
- Requires action immediately before every sexual act (requires **high motivation**).
- May **slip off** or **tear** during coitus.
- Some users complain of interference with **sexual sensation**.

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6. Lactational Amenorrhea Method (LAM)

A **natural family planning method** relying on the physiological suppression of **ovulation** during lactation.

Advantages:

- Completely **natural**, **free of cost**, and requires no appliances.
- Promotes **breastfeeding benefits** for the child.

Disadvantages / Side Effects:

- Effective **only up to 6 months** postpartum.
- Requires **exclusive and frequent breastfeeding** (**day and night**).
- Once **menstruation resumes**, or after **6 months**, it no longer offers reliable protection and an alternative method must be started immediately.

QUESTION 3 [Jan 2026 2019-New P-II; Apr 2022 2010 P-I; Aug 2018 2010 P-I; Feb 2017 2010 P-I; Feb 2015 2010 P-I]

Define Pearl index. Explain its uses and formula. Add a note on couple protection rate.

ANSWER

PEARL INDEX

Definition

The **Pearl index** is defined as the number of "**failures per 100 woman-years of exposure (HWY)**". It is a standard measure used to assess the **failure rate** of a specific **contraceptive method**.

Uses

- **Contraceptive Efficacy:** It is primarily used to evaluate the **efficacy** of a contraceptive method by measuring the number of **unplanned** or **accidental pregnancies** that occur during a specified period of exposure and use of that method.
- **Estimation of Lifetime Risk:** A failure rate of **10 per HWY** implies that over the lifetime of an average woman (**about 25 years of fertile period**), roughly **one-fourth** or **2.5 accidental pregnancies** would result.

Formula

The rate is given by the formula:

Failure rate per HWY = (Total accidental pregnancies / Total months of exposure) × 1200.

- **Numerator (Total accidental pregnancies):** Must include every known conception (**unwanted pregnancy**), whatever its outcome—whether it terminated as a **live birth**, **still-birth**, **abortion**, or has not yet terminated.
- **Denominator (Total months of exposure):** This is calculated by deducting the period of **pregnancy** from the total period under review. Usually, **10 months** are deducted for a **full-term pregnancy**, and **4 months** are deducted for an **abortion**.
- **1200:** Represents the total number of months in **100 years**.

Disadvantages of Pearl Index

- It assumes a **constant failure rate over time**.
- With most methods, **failure rates decline** with longer duration of use as the user gains experience. Thus, the **Pearl index** fails to accurately compare methods across various durations of exposure.
- *Note:* This limitation is overcome by using the **Life-table analysis**, which calculates a **cumulative failure rate** for each month of use.

COUPLE PROTECTION RATE (CPR)

Definition

Couple Protection Rate (CPR) is an **indicator of the prevalence of contraceptive practice** in a community. It is defined as the percentage of **eligible couples (ECs)** effectively protected against childbirth by one or the other approved methods of **family planning** (namely **sterilization**, **IUD**, **condoms**, or **oral pills**).

Formula

CPR = (Total number of eligible couples protected by any of the 4 approved methods / Total number of eligible couples in the community) × 100.

Significance and Examination Points

- **Programme Evaluation:** It is an important **demographic fertility indicator** used to evaluate the success and reach of the **National Family Welfare Programme** in a given community.
- **Target for Population Stabilization:** The demographic goal of **Net Reproduction Rate (NRR) = 1** can be achieved only if the **Couple Protection Rate** exceeds **60%**.
- **National Goals:** The goal for **CPR** under the **Reproductive and Child Health (RCH-I) programme** is to achieve **> 65%**.
- **Method Contribution: Sterilization** generally accounts for over **60%** of the effectively protected couples in the community.

QUESTION 4 [Aug 2017 2010 P-I & P-II; Sep 2015 2010 P-I & P-II]

Classify natural methods of family planning. Explain lactational amenorrhea method and add advantages of condoms.

ANSWER

CLASSIFICATION OF NATURAL METHODS OF FAMILY PLANNING

According to the provided sources, the term **"natural family planning"** is specifically applied to three methods based on the **self-recognition** of certain **physiological signs and symptoms** associated with **ovulation**:

1. **Basal Body Temperature (BBT) method**
2. **Cervical mucus method** also known as the "*Billings method*" or "*ovulation method*"
3. **Symptothermic method** a combination of the **temperature**, **cervical mucus**, and **calendar techniques**

Other methods based on the **natural regulation of fertility** often grouped with **natural** or **traditional methods** include:

- **Safe period** also known as the *rhythm method* or *calendar method*
- **Breast-feeding (Lactational amenorrhoea)**
- **Coitus interruptus** withdrawal method
- **Abstinence**

LACTATIONAL AMENORRHEA METHOD (LAM) / BREAST-FEEDING

- **Concept:** Field and laboratory investigations confirm the traditional belief that **lactation** prolongs **postpartum amenorrhoea** and provides a degree of protection against pregnancy.
- **Mechanism: Breastfeeding** provides a natural contraceptive effect and helps parents **space their children** by prolonging the period of **infertility**.
- **Efficacy & Risk:** No more than **5 to 10 per cent** of women conceive during **lactational amenorrhoea**. The risk of conception exists mainly during the single month preceding the resumption of menstruation.
- **Duration of Protection:** The method is generally reliable for only the first few months. By **6 months after childbirth**, about **20 to 50 per cent** of women start menstruating and are in immediate need of contraception.
- **Limitation:** *Once menstruation returns, continued lactation no longer offers any protection against pregnancy*.

ADVANTAGES OF CONDOMS

Condoms are a physical **barrier method of contraception** worn by males with **female variants** also available. Their advantages include:

- **Dual Protection:** The most significant advantage is that they provide protection not only against pregnancy but also against **Sexually Transmitted Diseases (STDs)** and **HIV/AIDS**.
- **Safety & Side Effects:** They have *no systemic side effects* and do not alter the future **fertility** of the user.
- **Postpartum Suitability:** Condoms are entirely safe during the **postpartum period** as they do not interfere with **breastfeeding** or the quality of **breast milk**.
- **Accessibility:** They are easily available, inexpensive, cheap, and easily stored and carried.
- **Ease of Use:** They are simple and easy to use, light, compact, disposable, and do not require any **medical supervision** or **prescription**.
- **Adolescent Friendly:** They make the **barrier method** worthwhile for adolescents, safeguarding their own health and that of their partners especially those with occasional different sexual partners.

QUESTION 5 [Feb 2025 2019-New P-II; Aug 2023 2010 P-I; Feb 2023 2019-Old P-II; Jan 2021 2010 P-I; Jan 2020 2010 P-II; Jul 2019 2010 P-II; Jan 2019 2010 P-I]

Classify hormonal contraceptives. Discuss oral contraceptive pills under mechanism, method of use, advantages, disadvantages, contraindications and non-contraceptive benefits.

ANSWER

CLASSIFICATION OF HORMONAL CONTRACEPTIVES

Hormonal contraceptives can be broadly classified into two main categories:

1. Oral Pills

- **Combined Pills:** Contain both an **estrogen** usually **ethinyl estradiol** and a **progestin** e.g., **Mala-N**, **Mala-D**.
- **Progestogen-Only Pill (POP):** Contain only a **synthetic progesterone** also known as the **"mini pill"**.
- **Post-coital Pill: Emergency contraceptive pill** containing **Levonorgestrel** or **combined hormones**.
- **Once a Month (long acting) Pill**
- **Male Pill** e.g., **Gossypol** - derivative of **cotton seed oil**

2. Depot (Slow Release Formulations)

- **Injectables:** Can be **Progestin-only** e.g., **DMPA**, **NET-EN** or **Combined injectables**.
- **Subcutaneous Implants: Subdermal implants** placed under the skin e.g., **Norplant**.
- **Vaginal Rings:** Rings containing hormones e.g., **levonorgestrel** placed in the vagina.

ORAL CONTRACEPTIVE PILLS (COMBINED OCPs)

Mechanism of Action

- **Combined Oral Pills** act primarily by **inhibiting ovulation** through the **suppression of the LH (Luteinizing Hormone) surge**.
- They also exert secondary effects especially due to the **progestin component** by rendering the **cervical mucus thick** inhibiting **sperm penetration** and inhibiting **tubal motility** delaying the transport of the **ovum** into the **uterine cavity**.

Method of Use (Administration)

- **Schedule:** The first dose is started strictly on the **5th day of the menstrual cycle** or **period**.
- **Duration:** This is followed by **one tablet once daily** at the same time of the day preferably at **bedtime** for **21 consecutive days**.
- **Break:** Following this, a break of **7 days** is given during which **withdrawal bleeding** menstruation occurs. The whole cycle is repeated after the **7-day break**.

- **Missed Pill Guidelines:** If a woman forgets to take a pill, she should be instructed to **take the missed pill immediately** as soon as she remembers. The next dose is to be taken at the usual scheduled time. She should then continue with the **21-day schedule**.

Advantages

- **Highly Effective:** They have a very low failure rate **Pearl index is less than 1 pregnancy per 100 woman-years** if used properly.
- **Completely Reversible: Fertility** returns promptly after withdrawing the method.
- **Easy to Use:** Simple to administer and available **over the counter**.
- **Independent of Coitus:** Does not interfere with the **sexual act** or **local sensations**.

Disadvantages / Adverse Effects

- **Requires Continuous Motivation:** Demands **daily adherence** to the pill schedule.
- **Does NOT Protect against STDs/HIV.**
- **Common Unwanted Effects: Breast tenderness**, **weight gain** due to water retention, **headache** and aggravation of **migraine**, and **bleeding disturbances**.
- **Metabolic Effects: Elevated blood pressure**, **altered lipid profile** reduced HDL, and **hyperglycemia/increased plasma insulin**.
- **Cardiovascular Complications:** Increased risk of **myocardial infarction**, **venous thrombosis**, **cerebral thrombosis**, and **thromboembolic phenomena**.
- **Carcinogenesis:** Suspected role in increasing the risk of **cervical cancer**.
- **Liver Disorders: Hepatocellular adenoma**, **gall bladder disease**, and **cholestatic jaundice**.
- **Lactation:** Reduces the quantity of **breast milk**; hence not advisable for **lactating women** in the first **6 months**.

Contraindications

Absolute Contraindications:

- **Breast cancer**
- **Genital cancer** (**Endometrial and cervical carcinoma**)
- **Liver disease**
- **History of thromboembolism**
- **Cardiac abnormalities / complicated valvular heart disease**
- **Congenital hyperlipidemia**
- **Undiagnosed abnormal uterine bleeding**

Relative Contraindications:

- **Age more than 40 years**
- **Smoking and age more than 35 years**
- **Mild hypertension**
- **Chronic renal disease**
- **Epilepsy**
- **Migraine**

- **Amenorrhea**
- **Lactating mothers** less than **6 months postpartum**
- **Diabetes mellitus**
- **History of infrequent bleeding**

Non-Contraceptive Benefits (Beneficial Effects)

Combined oral contraceptives provide protection against several conditions, which include:

1. **Benign breast disorders** (**fibrocystic disease**, **fibroadenoma**)
2. **Ovarian cysts**
3. **Iron deficiency anemia** by reducing **menstrual blood loss**
4. **Pelvic Inflammatory Disease (PID)**
5. **Ectopic pregnancy**
6. **Ovarian cancer** and **Endometrial cancer**
7. Other benefits include relief from **Polycystic Ovarian Syndrome (PCOS)**, **endometriosis**, **adenomyosis**, **dysmenorrhea**, and **dysfunctional uterine bleeding**.

QUESTION 6 [Jan 2026 2019-New P-II; May 2025 2019-New P-II; Aug 2025 2010 P-I; Feb 2025 2019-New P-II; Jun 2024 2019-Old P-II; Feb 2024 2019-Old P-II; Jan 2021 2010 P-II; Sep 2014 2010 P-I]

Classify intrauterine contraceptive devices. Discuss ideal candidate, timing of insertion, advantages, contraindications and side effects of IUCD. Add a note on third-generation IUCDs.

ANSWER

CLASSIFICATION OF INTRAUTERINE CONTRACEPTIVE DEVICES (IUCD)

IUCDs are broadly classified into two main types based on their **active components**:

1. Non-medicated or Inert IUDs (First Generation IUDs)

- Made of **polyethylene** or other **polymers** (**plastic material**) that are **non-toxic** and **tissue reactive**.
- *Examples:* **Lippes Loop** (**double-"S" shaped device**), **spirals**, **coils**, **rings**, and **bows**.

2. Medicated or Bioactive IUDs

These are developed to reduce **side effects** and increase **contraceptive effectiveness** by releasing **metal ions** or **hormones**.

- **Second Generation IUDs (Copper-releasing IUDs):**
  - *Earlier devices:* **Copper-7**, **Copper T-200**.
  - *Newer devices:* **Cu-T 380A** (**approved for 10 years**), **Nova T**, **Multiload devices** (**ML-Cu-250**, **ML-Cu-375**).
- **Third Generation IUDs (Hormone-releasing IUDs):**
  - *Examples:* **Progestasert**, **Levonorgestrel IUD (LNG-20 / Mirena)**.

IDEAL CANDIDATE FOR IUCD

According to the **Planned Parenthood Federation of America (PPFA)**, the **ideal IUD candidate** is a woman who:

- Has borne at least **one child** (**multiparous**).
- Has **no history of pelvic disease**.
- Has **normal menstrual periods**.
- Is willing to check the **IUD tail**.
- Has access to **follow-up** and treatment of potential problems.
- Is in a **monogamous relationship**.
- *Note:* It is not a method of first choice for **nulliparous women** due to higher **expulsion rates**, **abdominal pain**, and **pelvic infection risks**.

TIMING OF INSERTION

- **During Menstruation:** Within **10 days of the beginning of the menstrual period**. This is the most propitious time because the **cervical canal** is slightly dilated, insertion is technically easier, and the risk of an existing pregnancy is remote.
- **Immediate Postpartum Insertion:** Within **48 hours** or during the **first week after delivery** (requires special training; associated with a higher expulsion rate).
- **Post-puerperal Insertion: 6-8 weeks after delivery**. This is convenient as the uterus has involuted, and it can be combined with the **postnatal check-up**.
- **Post-abortion:** Can be inserted immediately after a legally induced **first-trimester abortion**. It is *not recommended* immediately after a **second-trimester** or **illegal abortion** due to the high risk of infection.
- **As an Emergency Contraceptive:** Within **3 to 5 days** of unprotected intercourse.

ADVANTAGES OF IUCD

- **Simplicity:** The insertion procedure is simple, takes only a few minutes, and requires no hospitalization.
- **Long-lasting:** Once inserted, it stays in place and provides protection as long as required (e.g., **Cu-T 380A** is effective for **10 years**).
- **Inexpensive:** Highly cost-effective method of contraception.
- **Reversible:** Contraceptive effect is immediately reversible upon removal of the device.
- **Free of Systemic Effects:** Virtually free of systemic metabolic side-effects commonly associated with oral hormonal pills.
- **High Continuation Rate:** Does not require continuous motivation or daily routine (like taking a pill daily or using a barrier consistently).
- **Independent of Coitus:** Does not interfere with the sexual act or pleasure.
- **Safe during Lactation:** Does not interfere with the quantity or quality of breast milk.

CONTRAINDICATIONS

Absolute Contraindications:

- Suspected **pregnancy**.
- **Pelvic Inflammatory Disease (PID)** (**active or recent**).
- **Vaginal bleeding** of undiagnosed aetiology.
- **Cancer** of the **cervix**, **uterus**, **adnexa**, or other **pelvic tumors**.
- Previous **ectopic pregnancy**.

Relative Contraindications:

- **Anaemia** and **Menorrhagia** (as copper IUDs can increase blood loss).
- History of **PID** since last pregnancy.
- **Purulent cervical discharge**.
- **Distortions of the uterine cavity** due to **congenital malformations** or **fibroids**.
- **Unmotivated person**.

SIDE EFFECTS AND COMPLICATIONS

- **Bleeding:** The **commonest complaint** (accounts for **10-20% of removals**). Usually presents as increased menstrual blood loss (**menorrhagia**) or **mid-cycle spotting**. **Iron supplements** are often prescribed to prevent **anaemia**.
- **Pain:** The second major side effect. **Low backache** and **abdominal cramps** may occur during insertion and subsequently during menstruation.
- **Pelvic Infection (PID):** Risk is highest in the first few months after insertion. Proper selection of cases and **aseptic insertion techniques** are required.
- **Uterine Perforation:** A rare but serious complication, occurring most frequently at the time of insertion.
- **Pregnancy and Ectopic Pregnancy:** If a woman becomes pregnant with an IUD *in situ*, there is a high risk of **spontaneous abortion**. **Ectopic pregnancy** must always be considered if an IUD user presents with pregnancy symptoms.
- **Expulsion:** Occurs in about **12-20% of cases**, mostly during the first few weeks or during menstruation.

NOTE ON THIRD-GENERATION IUCDs (HORMONE-RELEASING IUDs)

Third-generation IUDs work on the principle of releasing a **hormone** slowly into the **uterine cavity**, providing **localized action** with minimal **systemic side effects**.

Progestasert:

- A **T-shaped device** filled with **38 mg of progesterone**.
- Releases the hormone slowly at a rate of **65 mcg daily**.
- *Mechanism:* It exerts a direct local effect on the **uterine lining**, **cervical mucus**, and **sperm capacitation/survival**.
- *Disadvantage:* The hormone supply is gradually depleted, necessitating **regular replacement** of the device (usually yearly).

Levonorgestrel-releasing IUD (LNG-20 / Mirena):

- A potent **T-shaped synthetic steroid-releasing device**.
- Releases **20 mcg of Levonorgestrel** per day.
- *Advantages:* Extremely highly effective (**pregnancy rate of 0.2 per 100 woman-years**) and provides long-term clinical protection with an effective life of **10 years**.
- *Non-contraceptive benefits:* Associated with **lower menstrual blood loss** and fewer days of bleeding, making it particularly valuable in developing countries where excess blood loss leads to significant **anaemia**. It also leads to a lower incidence of **ectopic pregnancies** compared to earlier models.
- *Disadvantage:* These devices are more expensive than **copper-bearing IUDs**.

QUESTION 7 [Mar 2014 2010 P-I]

What are post-conceptional contraceptives? Classify emergency contraceptive methods and explain their indications, timing and mechanism of action.

ANSWER

POST-CONCEPTIONAL CONTRACEPTIVES

Definition

Post-conceptional methods are those methods of **fertility control** that are used for the **termination of pregnancy** after **conception** has already occurred.

Classification

They are broadly classified into **four types**:

1. **Menstrual Regulation:** A relatively simple method consisting of the **aspiration of the uterine contents 6 to 14 days after a missed period**, but before most pregnancy tests can accurately determine whether or not a woman is pregnant.
2. **Menstrual Induction:** Based on disturbing the normal **progesterone-prostaglandin balance** by **intrauterine application** of **1–5 mg solution of prostaglandin F2** to initiate sustained **uterine contractions** and **bleeding**.
3. **Oral Abortifacient:** Use of drugs like **Mifepristone (RU 486)** in combination with **Misoprostol**. Commonly, **mifepristone 200 mg or 600 mg** is given orally on **day 1**, followed by **misoprostol** vaginally or orally **1 to 3 days later**.
4. **Medical Termination of Pregnancy (MTP):** Termination of pregnancy under the legal provisions of the **MTP Act**.

EMERGENCY (POST-COITAL) CONTRACEPTIVE METHODS

Indications

Emergency or **post-coital contraception** is indicated immediately after an **unprotected** or **accidental intercourse** to prevent an **unplanned pregnancy**.

Classification and Timing

Emergency contraceptives can be classified into **Hormonal**, **Non-hormonal**, and **Intrauterine Devices (IUDs)**. The methods and their prescribed timings are:

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1. Hormonal Methods (Emergency Contraceptive Pills - ECPs):

- **Levonorgestrel (LNG): 1.5 mg single dose** within **72 hours** of unprotected intercourse, OR **0.75 mg** within **72 hours** followed by the same **0.75 mg dose** after **12 hours**.
- **Combined Oral Contraceptive Pills: 2 oral contraceptive pills** containing **50 mcg of ethinyl estradiol** within **72 hours** of intercourse, followed by the same dose after **12 hours**. Alternatively,

4 pills containing **30 or 35 mcg of ethinyl estradiol** within **72 hours** and **4 pills** after **12 hours**.

- **Mifepristone (RU 486):** Doses ranging from **10–600 mg**. It can be used as a **10 mg single dose** once within **72 hours**.
- **Ulipristal: 300 mg single dose**, can be given within **5 days** of unprotected intercourse.

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2. Intrauterine Devices (IUDs):

- **Copper-T (e.g., Cu-T 380A):** Can be inserted as an **emergency contraceptive** within **3 to 5 days** of the first unprotected sexual exposure.

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3. Non-Hormonal Methods:

- **Centchroman (Ormeloxifene):** Has shown potential as a **post-coital contraceptive method**.

Mechanism of Action

- **Intrauterine Devices (Cu-T):** It induces a **foreign body reaction** and mild **inflammatory changes** in the **endometrium**. **Copper** alters the biochemical composition of **cervical mucus**, affecting **sperm motility** and **survival**, leading to **sperm incapacitation**. These changes make the **endometrial lining** inhospitable, thereby **preventing the implantation** of the fertilized ovum.
- **Hormonal Pills (Combined Pills & Progestin-only Pills): Combined oral pills** primarily act by **inhibiting ovulation** by suppressing the **LH surge**. **Progesterone components** also render the **cervical mucus thick** (inhibiting **sperm penetration**) and inhibit **tubal motility**, delaying the transport of the **ovum** into the **uterine cavity**.
- **Centchroman (Ormeloxifene):** It is a **selective estrogen receptor modulator (SERM)**. Its **anti-estrogenic activity** on the **endometrium** inhibits the fertilized ovum from **implantation**. It also hastens the transfer of the **ovum** from the **fallopian tubes** to the **endometrial cavity** before it is properly ready for implantation.

QUESTION 8 [May 2025 2019-New P-II; Feb 2024 2019-Old P-II; Feb 2018 2010 P-I; Aug 2017 2010 P-I; Feb 2016 2010 P-I; Mar 2014 2010 P-II]

Discuss the Medical Termination of Pregnancy Act. Mention the indications / conditions for MTP, gestational age limits, place and person authorized to perform MTP.

ANSWER

MEDICAL TERMINATION OF PREGNANCY (MTP) ACT

The **Medical Termination of Pregnancy Act, 1971** (with subsequent amendments, notably the **MTP Amendment Act, 2021**) is a critical **reproductive health care measure** enacted by the **Indian Parliament**. It aims to reduce **maternal morbidity** and **mortality** resulting from **unsafe** and **illegal abortions** by providing **safe**, **legal**, and **accessible abortion services**.

The Act specifically lays down the conditions under which a **pregnancy can be terminated**, the persons authorized to perform such terminations, and the approved places where they can be conducted.

INDICATIONS / CONDITIONS FOR MTP

Under the **MTP Act**, there are **five specific conditions** identified under which a pregnancy can be legally terminated:

1. **Medical:** Where the continuation of the pregnancy might **endanger the mother's life** or cause **grave injury** to her **physical** or **mental health**.
2. **Eugenic:** Where there is a substantial risk of the child being born with serious handicaps due to **physical** or **mental/chromosomal abnormalities** detected in the **foetus**.
3. **Humanitarian:** Where the pregnancy is the result of **rape** or **sexual assault**.
4. **Socio-economic:** Where actual or reasonably foreseeable environments (whether social or economic) could lead to a risk of injury to the health of the mother.
5. **Failure of Contraceptive Devices:** The anguish caused by an unwanted pregnancy resulting from a failure of any **contraceptive device** or method can be presumed to constitute a **grave mental injury** to the health of the mother. This condition is a unique feature of the Indian law.

GESTATIONAL AGE LIMITS (As per MTP Amendment Act, 2021)

The **MTP Amendment Act of 2021** introduced significant changes to the **gestational age limits** to facilitate safer abortion care:

- **Up to 20 weeks:** Abortion is allowed based on the judgment and opinion of just **one medical practitioner**.
- **Between 20 and 24 weeks:** The consent and opinion of **two registered medical practitioners** are required. This extension of the gestation period is granted to special categories of women, such as:
  - **Rape/incest victims**
  - **Differently-abled women**
  - **Minors**

    - *Note on Supreme Court Ruling (Oct 2022):* **Rule 3B** also allows abortion between **20 and 24 weeks** of pregnancy if there is a change in marital status during pregnancy (including **widowhood** or **divorce**), and this extends to **unmarried women** who experience a change in their relationship.
- **Beyond 24 weeks:** If there are significant **foetal abnormalities**, a **state-level medical board** will evaluate whether abortions after **24 weeks** are permissible or not. If abortions are requested to end pregnancies resulting from **rape** and the gestation period is more than **24 weeks**, the only option is to file a **writ petition**.

PERSON AUTHORIZED TO PERFORM MTP (QUALIFICATIONS)

The Act provides safeguards to the mother by authorizing only specific medical professionals to perform the termination. Abortions can only be performed by a **Registered Medical Practitioner (RMP)** having experience or specialization in **Obstetrics and Gynaecology (OBG)**.

A doctor may qualify to perform **MTPs** if they hold one or more of the following qualifications:

- Has assisted an **RMP** in the performance of **25 cases** of medical termination of pregnancy in an approved institution.
- Has completed **6 months of housemanship** in **Obstetrics and Gynaecology**.
- Holds a **postgraduate qualification** in **Obstetrics and Gynaecology**.
- Has **1 year of practice** in **OBG** for those doctors registered on or after the date of commencement of the Act.
- Has **3 years of practice** in **OBG** for those doctors registered before the Act was passed.

PLACE WHERE ABORTION CAN BE PERFORMED

The Act stipulates that no termination of pregnancy shall be made at any place other than the following:

- A **hospital established or maintained by the Government**.
- A **place approved** for the purpose of this Act by the Government.
- **Non-governmental institutions** and private clinics, provided they obtain a valid **licence from the Chief Medical Officer (CMO)** of the district. This decentralizes the approval of places and eliminates the requirement of private clinics obtaining a Board licence.

CONSENT FOR MTP

- **Adult Women:** Only the consent of the **pregnant woman** is required. The consent of the **spouse/husband** is *not* legally required.
- **Minors and Mentally Ill:** The **written consent of the guardian** is strictly necessary before performing an abortion in women under **18 years of age**, and in **lunatics/mentally ill individuals** even if they are older than **18 years**.
- **Confidentiality:** Abortion services are provided in strict confidence, and the name of the abortion seeker is kept **statutory confidential**.

QUESTION 9 [Sep 2015 2010 P-I]

A 43-year-old woman presents with 8 weeks of amenorrhea. What history will you take and what advice will you give her?

ANSWER

For a **43-year-old woman** presenting with **8 weeks of amenorrhoea**, the immediate clinical suspicion is **pregnancy** (which needs to be confirmed or ruled out), keeping in mind her **advanced reproductive age**. The approach must cover detailed **history taking**, **pregnancy confirmation**, and **age-specific counseling**.

HISTORY TAKING

During the first visit, a detailed history needs to be taken to **confirm pregnancy**, **identify risks**, and ascertain her **reproductive goals**:

Menstrual History:

- Record the date of the **1st day of the last menstrual period (LMP)**.
- Calculate the **Expected Date of Delivery (EDD)** by adding **9 months and 7 days** to the **LMP**.

Obstetric History (GPLA):

- Number of previous **pregnancies**, **live births**, **abortions**, and **stillbirths**.
- Identify if there were any complications during previous pregnancies or confinements (e.g., **previous caesarean section**, **instrumental delivery**, **intrauterine death**, or **manual removal of placenta**).

Symptoms of Pregnancy:

- Record symptoms indicating complications or normal pregnancy signs: **vomiting**, **abnormal vaginal discharge**, **breathlessness at rest or mild exertion**, **generalized swelling in the body**, **burning in passing urine**, **palpitation**, or **easy fatigability**.

Medical and Surgical History:

- History of any current systemic illness that may complicate pregnancy: **Hypertension**, **diabetes**, **heart disease**, **tuberculosis**, **renal disease**, **epilepsy**, **asthma**, **jaundice**, **malaria**, **RTI**, **STD**, and **HIV/AIDS**.

Family History:

- Family history of **hypertension**, **diabetes**, **tuberculosis**, and **thalassaemia**.
- Family history of **twins**, **congenital malformations**, or **genetic disorders**.

Contraceptive History:

- History of **contraceptive use** (to rule out method failure).

Personal History:

- History of **drug allergies** and **habit-forming drugs**.

ADVICE AND COUNSELLING

1. Confirmation of Pregnancy

- Advise her to undergo a **urine examination** using a **pregnancy test kit** (e.g., the **"Nischay"** pregnancy test kit available under the National Programme) to confirm the pregnancy.

2. If the Pregnancy Test is Positive

If she is pregnant, her age (**43 years**) automatically classifies her as a **High-Risk Pregnancy** (**Elderly primi** or **Elderly grand multipara**). She must be advised regarding the following:

Prenatal Genetic Screening / Amniocentesis:

- Advise her on the absolute need for **prenatal diagnosis**. **Advanced maternal age** (**35 years or more**) carries a very high risk of **chromosomal anomalies**, particularly **Trisomy 21 (Down's syndrome)**.
- **Amniocentesis** and **ultrasound foetal anomaly scans** are strongly recommended to detect any **metabolic** or **chromosomal defects** early in the pregnancy.

Continuation vs. Termination:

- Counsel her to determine if the pregnancy is wanted. If it is an **unwanted pregnancy**, refer her at the earliest to a facility providing **safe abortion services** under the **Medical Termination of Pregnancy (MTP) Act**.

Rigorous Antenatal Care:

- If she wishes to continue the pregnancy, advise her that she requires **specialized care** and **frequent monitoring**. She must be referred to a well-equipped center (**First Referral Unit/Hospital**).
- Advise on adequate **diet**, **rest**, **Iron and Folic Acid (IFA)** supplementation, **Calcium supplementation**, and **Tetanus (Td)** immunization.

3. Family Planning and Contraceptive Advice

Regardless of whether she continues the pregnancy, undergoes **MTP**, or is not pregnant, she needs strict **contraceptive counseling** suitable for a woman over **40**:

Avoid Oral Contraceptive Pills (OCPs):

- *Strict Advice:* She must **NOT** be prescribed **Combined Oral Contraceptive Pills**. Age over **40 years** is a **relative contraindication** for **OCPs**.
- Beyond **40 years** of age, the pill is not to be prescribed or continued because of the sharp increase in the risk of **cardiovascular complications** (**thromboembolism**, **myocardial infarction**).

Promote Terminal Methods (Sterilization):

- If her family is complete, strongly advise **Voluntary Sterilization** (**Tubectomy** for her or **Vasectomy** for her husband) as it is the most effective, safe, and permanent method.

Intrauterine Contraceptive Devices (IUCD):

- If she refuses sterilization, advise a **long-acting**, **reversible**, and **non-hormonal method** like the **Copper-T 380A**, which offers protection for **10 years** and has no systemic cardiovascular side effects.

Barrier Methods:

- Alternatively, **condoms** can be used, which are safe and provide **dual protection** without hormonal risks.

QUESTION 10 [Feb 2016 2010 P-I]

Substantiate with reasons: Socio-economic development is the best method of contraception.

ANSWER

It is a well-established and axiomatic principle in **Community Medicine** and **Demography** that **"economic development is the best contraceptive"**. While modern **contraceptive technology** provides the tools for family planning, the underlying desire and motivation to limit family size are primarily driven by **socio-economic development**.

The problem of **family planning** is essentially a problem of **social change**, and contraceptive technology alone is no shortcut to solving it. The reasons why **socio-economic development** acts as the best contraceptive are substantiated below:

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1. Motivation to Improve Standard of Living

- The experience of all countries that have successfully achieved **population control** shows that the best motivation for limiting family size is **economic**.
- When **socio-economic development** occurs, individuals develop a strong desire to improve their **standard of living** and **quality of life**.
- People begin to understand the economic benefits of a **small family norm**, realizing that fewer children allow for a better share of **family resources**, adequate **nutrition**, and better **healthcare**.

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2. The Demographic Transition

- **Demographic Transition** is the process of shifting from a **high birth rate** and **high death rate** to a **low birth rate** and **low death rate**.
- This transition naturally occurs as a direct result of the **economic development** of a country from a **pre-industrial** to an **industrial economy**.
- Historically, in **Western Europe** during the **Industrial Revolution**, the increase in **income** and **wealth** was accompanied by a spontaneous decrease in both **birth** and **death rates**.

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3. Impact of Female Education and Literacy

- **Socio-economic development** brings about compulsory education for children and increased literacy, particularly **female literacy**.
- **Education** is a key determinant of health and fertility. **Women with schooling tend to marry later, delay child-bearing, and are more likely to practice family planning**.
- **Educated women** generally have fewer children with wider spacing between births, acting as a natural check on **population growth**.

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4. Reduction in Infant Mortality Rate (IMR)

- There is a strong correlation between **fertility** and **child survival**: **high fertility and high infant mortality go together**.

- In underdeveloped societies, parents often have many children as an **"insurance"** against high infant deaths.
- **Socio-economic development** improves **nutrition**, **sanitation**, and **healthcare access**, which drastically reduces the **Infant Mortality Rate (IMR)**. When parents are confident that their children will survive to adulthood, the compensatory drive to have multiple pregnancies declines.

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5. Empowerment and Status of Women

- Development accelerates social changes such as raising the **age of marriage**, increasing the **status of women**, and expanding **female employment opportunities**.
- **Economic independence** and **social empowerment** mean that women have a greater say in **reproductive decisions** and are more likely to adopt modern **contraceptive methods**.

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6. Social Security and Old-Age Independence

- In traditional, less developed societies, children are often viewed as **economic assets** and a source of **old-age security**.
- **Socio-economic progress** provides organized **old-age security**, **pensions**, and **social welfare programs**, thereby reducing the parents' reliance on a large number of children for support in their later years.

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7. The "Kerala Experience" (Evidence-based proof)

- The Indian state of **Kerala** dramatically illustrates how **socio-economic development** controls **population growth**. Despite having a modest per capita income, Kerala achieved a very low birth rate (**13.1 per 1000 compared to the national average of 21.1**) and a low infant mortality rate.
- This was achieved through strong political commitment to equitable **socio-economic development**, **land reforms**, widespread **social welfare**, and an exceptionally high **female literacy rate**. This proves that equitable social development naturally drives down **fertility rates**.

Conclusion

While **family planning services** must be accessible, they are only utilized effectively when the community is motivated. This motivation is organically generated through **mass education**, **communication**, **poverty alleviation**, and raising the **standard of living**, proving that **socio-economic development is indeed the best and most sustainable contraceptive**.