

# **FMT COMPILED SHORT NOTE ANSWERS**

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## **1. Wandering Lunatic**

- ❖ "Wandering Lunatic" is a term that has been historically used to describe people with mental illness who wander the streets.
- ❖ This term is now considered outdated and stigmatizing, as it reinforces negative stereotypes about mental illness.
- ❖ People with mental illness are not defined solely by their condition and should not be labeled or judged based on it.
- ❖ It is important to treat individuals with mental illness with respect, compassion, and empathy, and to provide them with appropriate care and support.
- ❖ Mental illness is a complex issue that can affect anyone regardless of age, gender, race, or socioeconomic status, and it requires a comprehensive approach that addresses the underlying causes and provides effective treatment and care.

## **2. Diagnostic criteria of paraphilia**

Paraphilia refers to a condition characterized by intense and persistent sexual arousal and fantasies that are directed towards atypical objects, people, or situations. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) outlines the diagnostic criteria for paraphilic disorders as follows:

- ❖ Over a period of at least six months, recurrent and intense sexual fantasies, urges, or behaviors that involve nonhuman objects, the suffering or humiliation of oneself or one's partner, or non-consenting individuals.
- ❖ The sexual fantasies, urges, or behaviors cause significant distress or impairment in

social, occupational, or other areas of functioning.

- ❖ The sexual fantasies, urges, or behaviors are not due to the direct physiological effects of a substance or medication or another medical condition.
- ❖ The individual is at least 18 years of age, or if younger, the fantasies, urges, or behaviors are accompanied by clinically significant distress or impairment in social, academic, occupational, or other areas of functioning.
- ❖ The individual has acted on these sexual urges with a non-consenting person, or the sexual urges or fantasies cause significant distress or impairment in functioning.

It is important to note that having a paraphilia does not necessarily mean that an individual will act on their urges or that they pose a risk to others. However, if an individual is experiencing distress or impairment as a result of their paraphilic urges or behaviors, it is important to seek professional help. Treatment for paraphilic disorders may include therapy, medication, or a combination of both.

### **3. SIDS**

- ❖ Sudden Infant Death Syndrome (SIDS) is a condition that is characterized by the sudden, unexplained death of an infant, typically during sleep. The exact cause of SIDS is still unknown, but researchers have proposed several theories to explain the phenomenon. One such theory is the theory of critical diaphragm failure and prolonged sleep apnea.
- ❖ According to this theory, SIDS occurs when an infant's diaphragm fails to function properly, causing them to stop breathing. The diaphragm is a muscle that plays a crucial role in breathing by contracting and relaxing to draw air into the lungs. In infants who suffer from SIDS, it is believed that the diaphragm may be weaker than usual, making it more difficult for them to breathe.
- ❖ This weakness of the diaphragm can lead to prolonged episodes of sleep apnea, which is a condition where an individual stops breathing for short periods of time during sleep. Sleep apnea is relatively common in infants and usually resolves on its own without causing any harm. However, in some cases, the episodes of apnea can become more prolonged, leading to hypoxia (lack of oxygen) and ultimately, death.

- ❖ The theory of critical diaphragm failure and prolonged sleep apnea suggests that in infants with weaker diaphragms, prolonged episodes of sleep apnea can lead to a critical failure of the diaphragm, causing them to stop breathing altogether. This can result in sudden death, without any apparent cause or warning signs.
- ❖ While this theory is compelling, it is important to note that the exact mechanisms underlying SIDS are still not fully understood. Other theories have been proposed to explain the phenomenon, including abnormalities in brainstem function, genetic factors, and environmental factors such as cigarette smoke exposure.

In conclusion, the theory of critical diaphragm failure and prolonged sleep apnea is one of several proposed explanations for SIDS. While it is not definitive, it provides a potential mechanism through which SIDS could occur and highlights the importance of continued research into this devastating condition.

#### **4. Critical diaphragm failure**

Critical diaphragm failure (CDF) is a term used to describe a condition where the diaphragm, which is a thin sheet of muscle that separates the chest cavity from the abdominal cavity, fails to function properly. Here are some key points about CDF:

- Causes:  
CDF can be caused by a number of factors, including trauma to the chest or abdomen, muscle fatigue, and congenital abnormalities.
- Symptoms:  
The symptoms of CDF can vary depending on the severity of the condition, but may include shortness of breath, chest pain, abdominal pain, and difficulty breathing.
- Diagnosis:  
CDF can be diagnosed through a combination of physical examination, imaging tests such as X-rays or CT scans, and pulmonary function tests.
- Treatment:  
Treatment for CDF typically involves addressing the underlying cause of the condition. In cases where the diaphragm is ruptured or torn, surgery may be necessary to repair the muscle.

➤ **Prognosis:**

The prognosis for CDF depends on a number of factors, including the severity of the condition and the underlying cause. In many cases, with appropriate treatment, patients are able to make a full recovery.

➤ **Complications:**

If left untreated, CDF can lead to a number of complications, including respiratory failure, pneumonia, and even death.

## **5. After fire elements**

After a fire, several elements or factors can be examined to determine the cause and origin of the fire. These elements are commonly referred to as the "after-fire" elements and include the following:

➤ **Burn patterns:**

Burn patterns on surfaces and objects can provide important clues about the origin and spread of the fire. These patterns can indicate the direction of the fire's movement and help investigators determine where the fire started.

➤ **Fire debris:**

Debris from the fire, such as ash, charred wood, and melted plastic, can also provide important information about the fire's cause and origin. The type and distribution of debris can indicate where the fire started and what materials were involved.

➤ **Electrical systems:**

If the fire is suspected to be electrical in nature, the electrical systems in the building or area may be examined for signs of damage or malfunction.

➤ **Accelerants:**

If the fire is suspected to be arson, investigators may look for evidence of accelerants such as gasoline or other flammable liquids. Samples of debris and other materials may be collected for laboratory analysis.

➤ **Fire suppression systems:**

The operation of fire suppression systems, such as sprinklers or fire extinguishers, can

also provide important information about the fire. For example, if the sprinkler system was activated, this can help investigators determine the intensity and duration of the fire.

➤ Witness statements:

Statements from witnesses, including those who may have seen the fire start or who were in the vicinity at the time of the fire, can also be used to help investigators determine the cause and origin of the fire.

## 6. Gunshot residues

Gunshot residues (GSR) refer to the small particles that are left behind after a firearm is discharged. These residues can be found on the shooter, the victim, and the surrounding environment, and can provide important information about the circumstances surrounding a shooting. Here are some points to consider when discussing gunshot residues:

➤ Composition:

Gunshot residues are composed of a mixture of particles that are generated when a firearm is discharged. These particles can include lead, copper, and other elements that are present in the bullet and the gunpowder.

➤ Detection:

Gunshot residues can be detected using a variety of techniques, including scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS), and other methods. These techniques can be used to analyze samples from clothing, skin, and other surfaces to determine whether gunshot residues are present.

➤ Transfer:

Gunshot residues can be transferred from the gun to the shooter's hands and clothing, as well as to the victim and the surrounding environment. The pattern of transfer can provide important information about the position of the shooter and the trajectory of the bullet.

➤ Time frame:

The presence of gunshot residues can provide information about the time frame of a shooting. For example, if gunshot residues are found on a suspect's clothing several days after a shooting, this can indicate that the suspect was present at the scene at the time of the shooting.

➤ **Distance:**

The distribution of gunshot residues can provide information about the distance between the gun and the target. In general, gunshot residues are more widespread when the gun is fired at close range, and are more concentrated when the gun is fired from a greater distance.

➤ **Contamination:**

It is important to note that gunshot residues can be contaminated by other factors, such as the presence of other chemicals or environmental factors. Therefore, it is important to carefully analyze the results of gunshot residue tests to ensure that they are accurate and reliable.

## **7. Skull photo superimposition**

Skull photo superimposition is a forensic technique used to identify an unknown human skull by comparing it with a photograph of a missing person's skull. Here are the key points about the process:

➤ **Process:**

The process involves taking a photograph of the unknown skull and a photograph of the missing person's skull, and then superimposing the two images using computer software.

➤ **Criteria for Comparison:**

The comparison is based on the size, shape, and alignment of the skull features, such as the eye sockets, nasal bones, and the shape of the skull.

➤ **Verification:**

The superimposed images are verified by matching the skull features, such as the curvature of the skull, the position of the teeth, and the shape of the eye sockets.

➤ **Accuracy:**

Skull photo superimposition is a highly accurate method, with a success rate of up to 90% in identifying unknown skulls.

➤ **Limitations:**

The technique has some limitations, such as the need for a clear photograph of the missing person's skull, and the fact that the method is less accurate for skulls that have been damaged or altered.

- **Legal Admissibility:**  
Skull photo superimposition is an accepted and admissible method of identification in courtrooms, and has been used in many high-profile cases.
- **Time frame:**  
The process of skull photo superimposition can be completed within a few hours, making it a useful technique for identifying unknown skulls in a timely manner.
- **Equipment:**  
The technique requires specialized software and equipment, including a digital camera and a computer with image-editing software.
- **Forensic expertise:**  
Skull photo superimposition requires a high level of forensic expertise, including knowledge of anatomy, photography, and computer software.

## **8. Vicarious liability**

Vicarious liability is a legal principle that holds one party responsible for the actions of another party. Here are the key points about vicarious liability:

- **Definition:**  
Vicarious liability is a legal concept that holds one party responsible for the actions of another party, even if the responsible party did not directly cause the harm.
- **Scope:**  
Vicarious liability can arise in a variety of contexts, including employer-employee relationships, partnerships, and agency relationships.
- **Employer-Employee Relationship:**  
In the employer-employee context, the employer can be held vicariously liable for the actions of their employees if the employees were acting within the scope of their employment when they caused harm.
- **Partnership:**  
In a partnership, each partner can be held vicariously liable for the actions of the other partners, as well as the actions of any employees of the partnership.
- **Agency Relationship:**  
In an agency relationship, the principal can be held vicariously liable for the actions of the agent, even if the principal did not directly cause the harm.
- **Rationale:**  
The rationale behind vicarious liability is to hold the party with the most control and power over the situation responsible for any harm caused.

➤ **Exceptions:**

There are some exceptions to vicarious liability, such as when the employee or agent acted outside the scope of their employment or agency, or when the harm was caused by the intentional or criminal acts of the employee or agent.

➤ **Legal Consequences:**

The legal consequences of vicarious liability can include financial damages, fines, and legal sanctions.

➤ **Importance:**

Vicarious liability is an important legal principle as it encourages individuals and organizations to take responsibility for the actions of their employees or agents, and to implement appropriate policies and procedures to prevent harm.

## **9. Monday fever**

Monday fever is a term used to describe the phenomenon of employees calling in sick on Mondays more frequently than on other days of the week. Here are the key points about Monday fever:

➤ **Definition:**

Monday fever is a phenomenon where employees call in sick on Mondays more frequently than on other days of the week.

➤ **Causes:**

The causes of Monday fever can include a combination of factors, such as stress, job dissatisfaction, burnout, and lack of motivation.

➤ **Psychological Factors:**

Psychological factors, such as anxiety and depression, can also contribute to Monday fever.

➤ **Behavioral Factors:**

Behavioral factors, such as alcohol and drug use over the weekend, can also contribute to Monday fever.

➤ **Impact:**

Monday fever can have a significant impact on workplaces, as it can lead to decreased productivity, increased absenteeism, and increased workload for other employees.

➤ **Management Strategies:**

Management strategies to address Monday fever can include promoting a positive work environment, providing support for employees who are struggling, and implementing flexible work arrangements.

➤ **Prevention:**

Prevention of Monday fever can include encouraging employees to take breaks, promoting work-life balance, and providing opportunities for professional development and career advancement.

➤ **Legal Implications:**

Employers have the right to take action against employees who engage in excessive absenteeism, including Monday fever, but must ensure that any action taken is legally compliant.

➤ **Importance:**

Addressing Monday fever is important for the well-being of employees and the overall success of a workplace.

## **10. Bumper fracture**

Bumper fracture refers to a type of injury that occurs in motor vehicle accidents when the front or rear bumper of a vehicle is damaged. Here are some key points to consider in a short essay on bumper fracture:

➤ **Definition:**

Bumper fracture is a type of impact injury that occurs when the bumper of a vehicle is struck or impacted by another vehicle or object.

➤ **Causes:**

Bumper fracture can be caused by a variety of factors, including high-speed collisions, rear-end accidents, and impacts with objects such as guardrails or walls.

➤ **Symptoms:**

Symptoms of bumper fracture can include pain, swelling, bruising, and stiffness in the affected area. In some cases, the bumper may be visibly deformed or damaged.

➤ **Diagnosis:**

Bumper fracture is typically diagnosed through a physical examination and imaging tests such as X-rays or CT scans.

➤ **Treatment:**

Treatment for bumper fracture may include rest, ice, compression, and elevation (RICE), pain medication, physical therapy, and surgery in severe cases.

➤ **Prevention:**

Bumper fracture can be prevented by driving defensively, maintaining a safe distance from other vehicles, and ensuring that the vehicle's bumper is in good condition.

➤ Legal implications:

Bumper fracture can be used as evidence in legal cases related to motor vehicle accidents, particularly in cases where the injured party seeks compensation for medical expenses and other damages.

## 11. Markings of bullet

Markings on a bullet can provide important information for forensic investigations. Here are some key points about the markings of bullets:

➤ Rifling marks:

Rifling is the process of making grooves or spiral lines inside the barrel of a firearm. As a bullet travels down the barrel, these grooves leave markings on the bullet's surface. These markings can be used to identify the type of firearm that was used to fire the bullet.

➤ Striations:

Striations are microscopic lines or scratches on the surface of a bullet. Like rifling marks, striations can be used to match a bullet to a particular firearm. Striations can also provide information about the condition of the firearm, such as whether it was well-maintained or damaged.

➤ Caliber:

The caliber of a bullet refers to its diameter. The caliber of a bullet can be determined by measuring its width or by comparing it to known samples. Caliber information can help investigators identify the type of firearm that was used to fire the bullet.

➤ Brand markings:

Some manufacturers put unique markings or symbols on their bullets. These markings can provide information about the manufacturer and the type of bullet.

➤ Damage:

When a bullet strikes a target, it can cause damage that is visible on the bullet's surface. These markings can provide information about the type of target that was hit and the angle at which the bullet struck.

## **12. Lapsed union**

Lapsed union, also known as non-union, refers to the failure of a bone fracture to heal properly.

Here are some key points to consider in understanding lapsed union:

➤ **Definition:**

Lapsed union is a condition where a broken bone fails to heal, leading to a persistent fracture.

➤ **Causes:**

There are many reasons why a fracture may fail to heal, including poor blood supply, infection, instability of the fracture, and inadequate immobilization or fixation.

➤ **Symptoms:**

Lapsed union may cause pain, tenderness, and swelling around the affected area, as well as difficulty using the affected limb or joint.

➤ **Diagnosis:**

Diagnosis of lapsed union is usually made through X-rays or other imaging studies, which can show the persistence of the fracture despite the passage of time.

➤ **Treatment:**

Treatment for lapsed union typically involves surgical intervention to stabilize the fracture and promote bone healing. This may involve bone grafts, the use of fixation devices such as pins, plates, or screws, and the use of external devices such as braces or casts.

➤ **Complications:**

Lapsed union can lead to complications such as chronic pain, limited mobility, and deformity, which may require additional surgical intervention.

➤ **Prevention:**

Proper treatment and management of fractures can help prevent lapsed union. This includes adequate immobilization and fixation of the fracture, ensuring adequate blood supply to the affected area, and treating any underlying conditions that may impair bone healing.

## **13. Warning notice**

A warning notice is a sign or written notice that indicates a potential hazard, danger or a risk. It is used to alert individuals and provide information on the potential risks and precautions to be taken to avoid injury or harm. Here are some key points on warning notices:

- **Purpose:**  
The primary purpose of a warning notice is to provide safety information and alert people to potential hazards.
- **Types:**  
Warning notices can be in the form of signs, symbols, labels, placards, or written notices.
- **Placement:**  
Warning notices should be placed in visible locations where they are easily noticed and read by individuals.
- **Content:**  
The content of a warning notice should be clear and concise, providing information on the potential hazard and the actions that can be taken to avoid injury or harm.
- **Language:**  
The language used in a warning notice should be easily understood by the target audience. Multilingual notices may be required in certain locations.
- **Standards:**  
Warning notices may be subject to legal standards and regulations, depending on the type of hazard or risk.
- **Compliance:**  
It is important to comply with warning notices and follow the instructions provided to avoid potential hazards.
- **Examples:**  
Examples of warning notices include "Danger - High Voltage," "Caution - Slippery Surface," "Warning - Biohazard," "Keep Out - Authorized Personnel Only," and "No Smoking."
- **Importance:**  
Warning notices are important in preventing accidents and injuries in workplaces, public areas, and private properties.
- **Responsibility:**  
It is the responsibility of the owner or operator of a property or facility to ensure that warning notices are posted in appropriate locations to protect the safety and well-being of individuals

## **14. 18 years of age**

The legal age of majority in India is 18 years, which holds significant medicolegal importance.

Here are the pointwise details:

➤ **Age of consent:**

A person below 18 years of age is considered a minor, and sexual activity with a minor is considered statutory rape, regardless of whether the minor gave consent or not.

➤ **Criminal responsibility:**

A person above 18 years of age is held responsible for criminal acts committed by them, while a person below 18 years of age is considered a juvenile, and their case is tried under the Juvenile Justice Act.

➤ **Age of marriage:**

The legal age of marriage in India is 18 years for girls and 21 years for boys. Marrying below the legal age is considered a crime and attracts punishment under the Prohibition of Child Marriage Act.

➤ **Age for driving license:**

A person above 18 years of age can apply for a driving license in India.

➤ **Age for voting:**

The legal age for voting in India is 18 years. A person below 18 years of age is not allowed to vote.

➤ **Age for employment:**

A person above 18 years of age is eligible for employment in India. The child labor laws prohibit employing a child below 14 years of age in any occupation and between 14 to 18 years of age in hazardous occupations.

➤ **Age for consent for medical treatment:**

A person above 18 years of age is considered capable of giving consent for medical treatment. In the case of minors, the consent of their legal guardian or parent is necessary.

➤ **Age for consent for organ donation:**

A person above 18 years of age is considered capable of giving consent for organ donation.

➤ **Age for consent for adoption:**

A person above 18 years of age is considered capable of giving consent for adoption.

➤ **Age for consent for participation in clinical trials:**

A person above 18 years of age is considered capable of giving consent for participating in clinical trials. In the case of minors, the consent of their legal guardian or parent is necessary.

- Age for consent for marriage registration:  
A person above 18 years of age is considered capable of giving consent for marriage registration.
- Age for consent for medical examination in sexual assault cases:  
In cases of sexual assault involving adolescent girls, the presence of a female medical attendant is necessary during the medical examination of the victim, who must be above 18 years of age.

## **15. Sec 377 IPC**

Section 377 of the Indian Penal Code (IPC) criminalizes sexual activities that are considered "unnatural offenses." Here are the key points related to Section 377:

- Definition:  
Section 377 of the IPC defines "unnatural offenses" as sexual activities that are against the order of nature. This includes any sexual act other than vaginal intercourse between a man and a woman.
- Criminalization:  
Section 377 criminalizes consensual sexual activities between same-sex individuals, as well as acts such as oral and anal sex, even if they are performed between opposite-sex partners.
- Punishment:  
The punishment for committing an "unnatural offense" under Section 377 is imprisonment for a term of up to 10 years and a fine. Repeat offenders may face a longer prison sentence and a higher fine.
- Controversy:  
Section 377 has been a subject of controversy and debate, as it is seen by many as discriminatory against the LGBTQ+ community and a violation of their human rights.
- Legal challenges:  
In 2009, the Delhi High Court declared Section 377 unconstitutional and struck it down, but the decision was later overturned by the Supreme Court of India in 2013. However, in 2018,

the Supreme Court overturned its own decision and decriminalized consensual sexual activities between same-sex individuals, effectively striking down Section 377.

➤ **Impact:**

The decriminalization of consensual sexual activities between same-sex individuals has been seen as a significant step towards greater acceptance and recognition of the LGBTQ+ community in India. However, discrimination and prejudice against LGBTQ+ individuals continue to be prevalent in many parts of the country

## **16. Joules Burn**

Joule's burn, also known as electrical burn or arc burn, is a type of injury that occurs when electrical current flows through the body and causes tissue damage. Here are some key points to consider when discussing Joule's burn:

➤ **Mechanism:**

Joule's burn occurs when electrical current flows through the body and is converted into heat energy. The amount of heat generated is proportional to the amount of current flowing through the body and the resistance of the tissues to the current.

➤ **Severity:**

The severity of Joule's burn depends on several factors, including the amount of current flowing through the body, the duration of the current flow, and the pathway of the current through the body. Burns can range from mild to severe, with severe burns potentially causing permanent tissue damage and even death.

➤ **Symptoms:**

Symptoms of Joule's burn may include pain, redness, swelling, blistering, and tissue damage. In severe cases, the burn may cause muscle contractions, cardiac arrest, or respiratory failure.

➤ **Treatment:**

Treatment of Joule's burn typically involves removing the patient from the source of the electrical current and providing immediate medical attention. The burn may be treated with pain medication, wound care, and surgery in severe cases.

➤ Prevention:

Joule's burn can be prevented by taking appropriate safety precautions, such as wearing protective clothing, using insulated tools, and avoiding electrical hazards. Proper training and education on electrical safety are also important to prevent Joule's burn.

## 17. Vitriolage

Vitriolage, also known as acid attack or acid throwing, refers to the violent act of throwing acid or a corrosive substance on a person with the intention to harm, disfigure or destroy their body. It is a form of gender-based violence, with the majority of victims being women and girls, although men and boys can also be targeted. Here are some points to consider regarding vitriolage:

➤ Causes:

The motives behind vitriolage can vary, but they are often rooted in issues such as jealousy, revenge, domestic violence, and honour-based violence. In some cases, acid attacks are used as a form of punishment for refusing a marriage proposal or rejecting a sexual advance.

➤ Physical Effects:

Vitriolage can cause severe and permanent damage to the victim's skin, eyes, and other organs. Victims may experience burns, scarring, blindness, and disfigurement, as well as physical and psychological trauma.

➤ Psychological Effects:

The psychological effects of vitriolage can be long-lasting and devastating. Victims may experience anxiety, depression, post-traumatic stress disorder (PTSD), and social isolation due to their changed physical appearance.

➤ Prevention and Support:

The prevention of vitriolage requires a multi-faceted approach that includes awareness-raising campaigns, education, legal reform, and support for victims. Support for victims includes medical treatment, psychological counselling, legal assistance, and vocational training.

➤ Legal Response:

Laws regarding vitriolage vary by country, but it is generally considered a criminal offence. In some countries, acid attacks are punishable by the death penalty.

However, legal action alone is not enough to prevent vitriolage, and a broader societal change is needed to address the underlying attitudes and beliefs that perpetuate this form of violence.

## **18. Metal fume fever**

Metal fume fever, also known as "brass founders' ague," "zinc shakes," or "welder's fever," is a type of occupational lung disease caused by the inhalation of metal fumes or dust. Here are some points to consider regarding metal fume fever:

➤ Causes:

Metal fume fever is caused by inhaling fumes or dust from metals such as zinc, copper, aluminum, and lead. It is most commonly seen in workers in the welding, soldering, and foundry industries, as well as in those who handle metal coatings, galvanized metal, or metal alloys.

➤ Symptoms:

The symptoms of metal fume fever typically develop within a few hours of exposure to the metal fumes or dust and can last up to 48 hours. The symptoms include fever, chills, cough, chest tightness, headache, fatigue, nausea, and muscle aches.

➤ Diagnosis:

Metal fume fever is diagnosed based on a history of exposure to metal fumes or dust and the presence of symptoms. Tests such as blood tests, chest X-rays, and lung function tests may be performed to rule out other respiratory conditions.

➤ Treatment:

Treatment for metal fume fever is primarily supportive, and it typically involves rest, hydration, and symptom relief with non-steroidal anti-inflammatory drugs (NSAIDs) or acetaminophen. In severe cases, hospitalization may be necessary, and oxygen therapy or corticosteroids may be given to relieve symptoms.

➤ Prevention:

Preventing metal fume fever requires the implementation of workplace safety measures, such as the use of personal protective equipment (PPE), adequate ventilation, and the use of engineering controls such as local exhaust ventilation. Workers should also receive training on the proper handling and use of metal products and be aware of the signs and symptoms of metal fume fever.

## **19. Arborescent marking**

Arborescent marking, also known as dendritic marking, is a technique used in forensic science to identify and link suspects to a crime scene. Here are some points to consider regarding arborescent marking:

➤ Definition:

Arborescent marking involves the use of a liquid or powder that contains a unique pattern of branching lines. This substance is applied to a surface at a crime scene, such as a door handle or window, and is invisible to the naked eye.

➤ Mechanism:

When a suspect touches the surface that has been marked, the unique branching pattern of the marking transfers to their skin. This transfer can then be visualized using a special light source or by applying a contrasting powder. The resulting pattern on the suspect's skin can then be compared to the pattern on the original arborescent marking.

➤ Advantages:

Arborescent marking is a highly sensitive and specific technique for linking a suspect to a crime scene. It can be used in cases where other forms of physical evidence may be lacking or difficult to obtain, such as in cases of burglary or theft.

➤ Limitations:

Arborescent marking is dependent on the presence of a surface that can be marked and a suspect who comes into contact with that surface. It is not suitable for all types of crimes, and the results can be affected by factors such as the age and condition of the marking substance, the environmental conditions, and the timing of the transfer.

➤ Applications:

Arborescent marking has been used successfully in real-world criminal investigations, including in cases of burglary, theft, and sexual assault. It is a useful tool for linking suspects to crime scenes and can help to provide valuable evidence in criminal proceedings.

## 20. Negative autopsy

A negative autopsy, also known as a non-diagnostic autopsy, is one in which no cause of death is found despite a thorough examination of the body. Here are some points to consider regarding negative autopsies:

➤ Definition:

A negative autopsy is one in which no obvious or definitive cause of death is found during the post-mortem examination of the body.

➤ Causes:

Negative autopsies can occur for several reasons, including the presence of advanced decomposition, insufficient tissue samples for analysis, and the use of autopsy techniques that are not sensitive enough to detect certain causes of death.

➤ Implications:

A negative autopsy can be frustrating for family members who are seeking closure and answers about their loved one's death. It can also complicate legal proceedings, such as in cases where the cause of death is needed to support criminal charges or insurance claims.

➤ Follow-up:

In cases of negative autopsy, additional tests may be performed, such as toxicology screenings, microbiology tests, and genetic testing, to try to identify a cause of death. Family members may also be encouraged to provide additional information about the deceased person's medical history or circumstances leading up to their death.

➤ Prevention:

Preventing negative autopsies requires proper storage and handling of the body, prompt and thorough investigation of the circumstances surrounding the death, and the use of autopsy techniques that are sensitive enough to detect all potential causes of death.

## **21. VICC**

Venom-induced consumption coagulopathy (VICC) is a medical condition caused by the consumption of clotting factors in the blood as a result of venomous snakebites or other venomous animal bites. Here are some clinical features of VICC:

➤ **Bleeding:**

The primary clinical feature of VICC is bleeding, which can range from mild to severe.

The bleeding can occur at the site of the bite or can be spontaneous and occur in other parts of the body, such as the gums, nose, or urinary tract.

➤ **Ecchymosis:**

Ecchymosis, which is the medical term for bruising, is another common feature of VICC.

This occurs due to the leakage of blood from damaged blood vessels into the surrounding tissue.

➤ **Hematuria:**

Hematuria, or blood in the urine, is a common clinical feature of VICC. This occurs due to bleeding in the urinary tract, which can be caused by the consumption of clotting factors.

➤ **Petechiae:**

Petechiae are small, flat, red spots on the skin that occur due to bleeding under the skin. This is another common clinical feature of VICC.

➤ **Gastrointestinal bleeding:**

VICC can also cause bleeding in the gastrointestinal tract, which can lead to symptoms such as abdominal pain, vomiting, and diarrhea.

➤ **Hypotension:**

In severe cases of VICC, hypotension, or low blood pressure, can occur due to the loss of blood.

➤ **Coagulopathy:**

VICC leads to a coagulopathy, which is a medical term for a bleeding disorder. This is

caused by the consumption of clotting factors in the blood, leading to an inability to form clots and stop bleeding.

## **22. POCSO Act**

The Protection of Children from Sexual Offences (POCSO) Act, 2019 is an Indian law aimed at protecting children from sexual abuse and exploitation. Here are some key points of the act:

- The POCSO Act, 2019 is applicable to all forms of sexual offences committed against children under the age of 18, including sexual assault, sexual harassment, and pornography.
- The act defines a child as any person below the age of 18.
- The act makes it mandatory for all persons to report any information related to the commission of an offence under the act, including the identity of the perpetrator and any witnesses.
- The act provides for the establishment of Special Courts to conduct trials for offences under the act.
- The act mandates the completion of the trial within one year from the date of filing the charge sheet.
- The act imposes stricter punishment for offences committed against children, including imprisonment for life, fines, and compensation for the survivor.
- The act provides for the establishment of a National Commission for the Protection of Child Rights (NCPCR) and State Commissions for the Protection of Child Rights (SCPCRs) to monitor the implementation of the act.
- The act provides for the establishment of Child Welfare Committees (CWCs) in every district to oversee the care and protection of children who are survivors of sexual offences.
- The act requires the government to take measures to provide support services, including medical care, counselling, and legal aid, to survivors of sexual offences.
- The act makes it mandatory for all educational institutions and organizations working with children to implement measures for the prevention of sexual offences against children.

## **23. PNDT Act**

The Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act is a law passed by the Indian government in 1994 to prohibit the use of prenatal diagnostic techniques for the purpose of sex determination and to prevent female feticide. Here are some key points about the PNDT Act:

➤ **Objectives:**

The primary objectives of the PNDT Act are to prevent sex-selective abortions and to improve the status of the girl child in India. The Act aims to regulate the use of prenatal diagnostic techniques and prevent their misuse for sex determination.

➤ **Prohibitions:**

The PNDT Act prohibits any person or organization from conducting prenatal diagnostic procedures for the purpose of determining the sex of the fetus. It also prohibits the sale, distribution, or advertisement of any equipment or substance designed for sex determination.

➤ **Punishments:**

The PNDT Act imposes strict punishments for those who violate its provisions. Penalties can include imprisonment, fines, cancellation of licenses, and closure of clinics or diagnostic centres.

➤ **Implementation:**

The PNDT Act is implemented by a range of stakeholders, including the Central Supervisory Board, State Supervisory Boards, and appropriate authorities designated by state governments. The Act also provides for the appointment of appropriate authorities to oversee its implementation and ensure compliance.

➤ **Impact:**

The PNDT Act has had a significant impact on reducing the prevalence of sex-selective abortions in India. The Act has helped to create awareness about the importance of the girl child and has led to increased investment in girl child education and empowerment.

➤ Challenges:

Despite its successes, there are still challenges in the effective implementation of the PNDT Act. These challenges include a lack of awareness among some sections of society about the importance of the girl child, inadequate enforcement of the Act in some areas, and the need for continued monitoring and evaluation of its impact.

## **24. Offensive wounds**

Offensive wounds are injuries caused by an attacker with the intent to harm or kill. These wounds can provide important clues in criminal investigations and can help determine the nature of the attack. Here are some important points about offensive wounds:

➤ Characteristics:

Offensive wounds can be characterized by their shape, depth, and location. They may also be associated with defensive wounds, which are caused by the victim attempting to defend themselves.

➤ Weapon type:

The type of weapon used to cause the wound can often be determined by the nature of the injury. For example, sharp wounds may be caused by a knife or other bladed weapon, while blunt wounds may be caused by a blunt object such as a baseball bat.

➤ Number and pattern:

The number and pattern of wounds can provide important information about the nature of the attack. Multiple wounds in a specific pattern may indicate a particular weapon or style of attack.

➤ Position and direction:

The position and direction of the wounds can also provide important information about the attack. For example, a wound to the back may indicate that the victim was fleeing, while a wound to the front may indicate that the victim was facing their attacker.

➤ Fatal wounds:

Fatal wounds are those that cause the victim's death. These wounds can provide important information about the cause and manner of death, and can be used to

determine the charges against the attacker.

➤ Healing:

The healing process of a wound can also provide important clues about the timing and nature of the attack. The presence of scarring or other signs of healing can help determine the age of the wound and when the attack took place.

## 25. Recent amendments in MTP Act (2021)

### The MTP Act 1971 and The MTP Act Amendments 2021

	MTP Act 1971	The MTP Amendment Act 2021
Indications (Contraceptive failure)	Only applies to married women	Unmarried women are also covered
Gestational Age Limit	20 weeks for all indications	24 weeks for rape survivors Beyond 24 weeks for substantial foetal abnormalities
Medical practitioner opinions required before termination	One RMP till 12 weeks Two RMPs till 20 weeks	One RMP till 20 weeks Two RMPs 20-24 weeks Medical Board approval after 24 weeks
Breach of the woman's confidentiality	Fine up to Rs 1000	Fine and/or Imprisonment of 1 year



### MEDICAL TERMINATION OF PREGNANCY (AMENDMENT) ACT, 2021

1. Opinion of one **RMP** for termination of pregnancy up to **20 weeks**.
2. Opinion of **2 RMPs** for termination of pregnancy of **20-24 weeks**.
3. **Pregnancy can be terminated up to 24 weeks, only in cases of survivors of rape.**
4. **In case of failure of contraceptive in a women of her partner, MTP can be done only up to 20 weeks.**
5. MTP can be done even after 24 weeks. In case of substantial foetal abnormalities diagnosed by a **Medical Board**.

**"Note: MTP can be done at any time if it is immediately necessary to save the life of the pregnant woman."**