

SPOTTING IN FORENSIC MEDICINE

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Spotting is one of the most important component of Undergraduate Examination in Forensic Medicine. UG students may secure good marks on the bases of good performance in spot examination.

There are 10 spots given and the time given for each spot is 1 minute. In this time a student has to write what he know about the spot. Be careful and don't be confuse or try to remember absurd information because the time is very limited. If a student is unable to identify the spot he/she can still get some marks for the spot by writing other relevant points for example it a student is unable to identify a weapon, he/she may still get some marks by writing injuries caused by the given weapon.

Guidelines Before Spotting

- Try to mentally prepare yourself for spotting.
- Clearly write down your name and role number on the answer sheet given to you.
- Don't try to remember too much as you have to concentrate only on the spot given.
- Don't discuss the spots with your fellow students as they can give you wrong information as the too are appearing for the same examination.
- Don't try to know about spots from earlier batch as the spots are changed for each batch.
- Don't intermix the spots.
- Relax

During Spotting

- Listen to the instruction carefully.
- Follow the instructions.
- See spot number and follow it in serial order.
- Don't discuss the spots with your fellow students as they can give you wrong information as they too are appearing for the same examination.
- Try to be write to the point without confusion.
- Concentrate on the spot only and not to the bookish information.
- Carefully see the question given with the spot and answer the given question.
- In case you are unable to find out any question with the spot write whatever you know about that particular spot.
- Identify the spot correctly.
- It is a good practice to write the medico-legal significance of each and every spot irrespective instructed to write or not. It gives a good impression of you studies.

Examples of Question given with the spot:

1. Identify the spot and write medicolegal significance?
2. Comment on the spot given?
3. Comment on the given X-Ray?
4. Identify the given poison and write the treatment?
5. Identify the weapon and write the injuries caused?
6. Identify the given spot and draw well labeled diagram?
7. Write down the procedure and advantages of the following test?
8. Comment upon the age of given fetus and write five point in support to your answer?
9. Comment upon the age of given fetus and write medicolegal importance.

You will be given 10 spots from all the spot of the museum

SPOT NO 1: X-RAY

You will be given an X-Ray. The question generally asked is comment on the given spot ? or comment upon the age?

It is expected from you that you will have to write in the following lines:

- Part of Body X-Rayed?
- Comment upon the age of the person?
- Write the medicolegal significance of that age?
- Any other Specific finding like twin pregnancy or overlaying of skull?
- Comment upon that particular finding with its medicolegal significance:

Type of X-Ray Given:

- X-Ray Wrist joint for age of the person. Hint number of carper bones equals the age in early age group. [Capitate=3M, Hamate=4M, Triquetral=3Yr, Lunate= 4Yr, Scaphoid &trapezoid-5Yr, Trapezium=6Yr, Pisiform= 12Yr]
- X-Ray of Abdomen for twin pregnancy hint two spinal cord and skull visible in abdomen
- X-Ray of Abdomen for overlaying of skull bone remember buddha sign denotes death of the fetus.
- X-Ray of histosalpingogram for patent fallopian tube remember significance of patency of fallopian tube in divorce/ sterility.
- X-Ray of Knee joint for comment on the age of person. Hint Lower end of femur and upper of tibia and fibula fuses with shaft at 18-20 years.
- X-Ray of Ankle joint for comment on the age of person. Hint Lower end of tibia and fibula fuses with shaft at 16-18 years
- Apart from that other X-Ray can also be given. It is your approach which is important.

For Any X-Ray

Write down the part X-Rayed if possible view of X-Ray

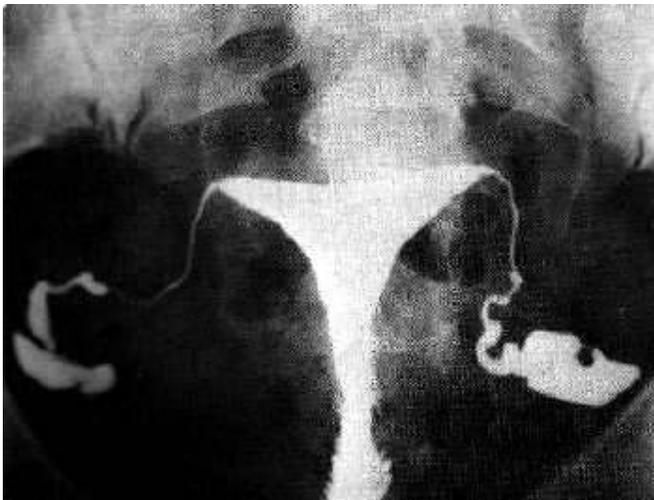
Any specific findings in the X-Ray like twin pregnancy etc.

Medicolegal Significance of that particular finding.

Any other detail you know in the remaining time.



Figure: 1. X-Ray of Wrist joint showing four carpel bone. The age of the person is about 4 years. The lower end of radius and ulna not united with the shaft.



X-RAY SHOWING NORMAL HISTOSALPINGOGRAM

SPOT NO. 2 BONE

You will be given one bone of human origin. You have to identify the bone and also comment on the sex of the bone and any other relevant thing regarding that bone. Please do also write about the side of the bone. Writing about ossification is a plus point.

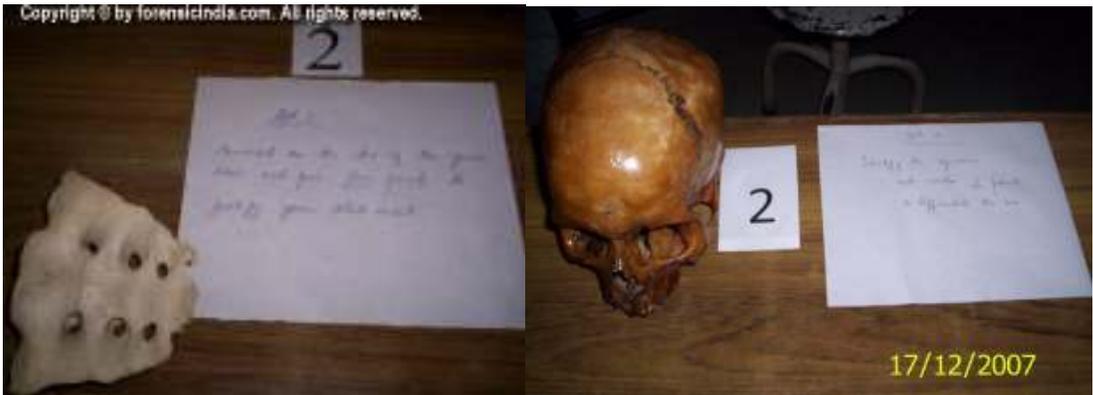
The Question:

Comment on the sex of the bone and give five points to justify your statement?

Identify the given bone and write few points as how this bone can be used to estimate the age of the individual?

The bones generally given are:

- **Sacrum for sex determination**
- **Skull Bone for sex determination**
- **Mandible for sex and age determination**
- **Femur [side determination, sex determination, medicolegal significance etc]**
- **Tibia [side determination, sex determination, medicolegal significance etc]**
- **Radius [side determination, sex determination, medicolegal significance etc]**
- **Ulna [side determination, sex determination, medicolegal significance etc]**
- **Fibula [side determination, sex determination, medicolegal significance etc]**



SPOT NO. 3 CHEMICAL TEST FOR BIOLOGICAL STAINS [BLOOD OR SEMEN]

In this you will be given one biological test. You have to write the procedure of the test and advantages and disadvantages of the given test. Generally test for blood and semen is given.

Test Given are:

Blood

1. **KASTLE MEYER TEST** [phenolphthalein test] : screening test for identification of blood stains. Hint pink color for positive reaction.
2. **BENZIDINE TEST** screening test for blood stains. Hint Blue Color for positive reaction.
3. **TAKAYAMA TEST** [Haemochromogen test] confirmatory test for blood. Hint Pink feathery crystals of haemochromogen is positive reaction.
4. **TEICHMANN'S TEST** [Haemin Crystal test] confirmatory test for blood. Hint Dark rhomboid crystals denotes positive reaction for blood

Semen

1. **FLOURENCE TEST** [detection of choline] for identification of seminal stains. Hint dark brown crystal of choline per iodide is formed denotes positive reaction.
2. **BARBERIO'S TEST** [spermine is detected] for identification of seminal stains. Hint needle shaped crystal of spermine picrate is formed denotes positive reaction.

SPOT NO. 4: POISONOUS ANIMAL

In this spot you will be given a poisonous animal. You will have to identify the animal and perform the question written with it.

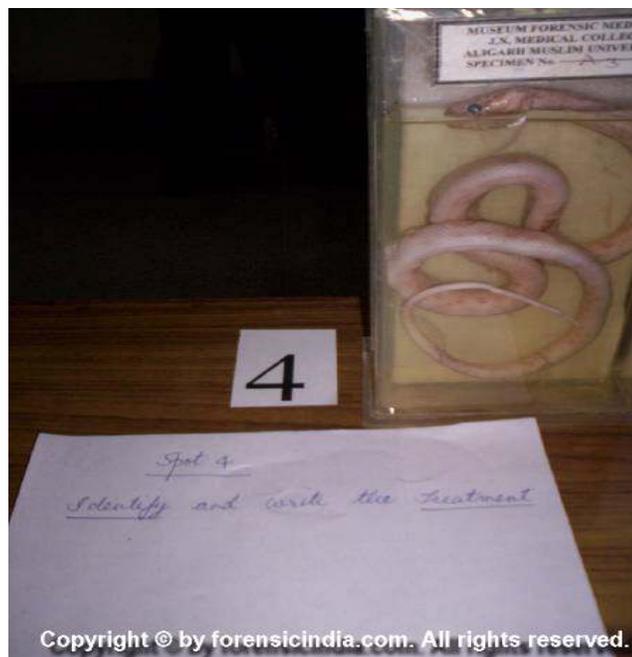
The Poisonous Animal given are:

- **King Cobra**
- **Cobra**
- **Viper Snake**
- **Scorpion**

The Questions

Identify the spot and write the treatment?

Identify the spot and write the Signs and Symptoms?



SPOT NO. 5: VEGETABLE POISON/DRY SPECIMEN

In this a vegetable poison is given you have to identify the poison and write all the details about that poison. You can also be given dry specimen in this so be prepared. Please make it a habit to write the medicolegal significance of all the specimen given.

The Question:

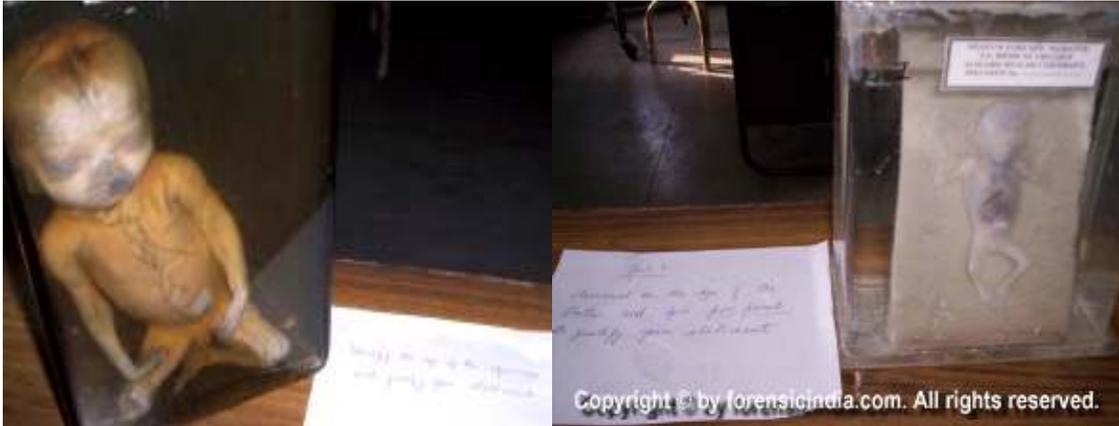
Identify the poison and write down the Fatal Dose Fatal Period, Treatment and Medicolegal significance of that poison?

Type of Vegetable poison Given are:

- **Abrus Precatorius**
- **Castor Seeds [Ricinus Communis]**
- **Croton seeds [Croton Tinglium]**
- **Chilli seeds [Capsicum Annum]**
- **Datura Seeds**
- **Canabis Indica**
- **Opium**
- **Colocynth [Bitter Apple, Indrayan, Makal, Mekka, Pava]**
- **Tobacco**
- **Semicarpus Anacardium [Marking Nut]**
- **Reetha [Sapindus Trifoliatus]**
- **Strychnine seeds**
- **Any other dry specimen**
- **Any metallic poison [copper sulfates]**



SPOT NO. 6: FETUS

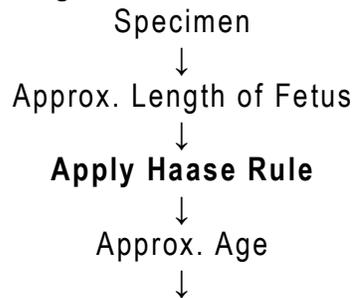


Question:

Comment on the age of the give fetus and write five points in support of your answer

RULE OF HAASE: During the first five months of pregnancy the square root of the length gives the approx. age of the fetus in months. During last five months the length in centimeters is divided by five gives the age in months.

How to proceed for age determination of fetus in spotting?



Comment upon the following:

- Length of the fetus to calculate the approximate age
- Scalp Hair present or not and length
- Eyes state of maturity
- Eyelashes/Eyelids present or not.
- Nails present or not/soft or thick/reached tip of finger or not.
- Sex can be recognized or not.
- Signs of Viability absent/present

- Can comment on internal organs and on level of muconeum whether it is in Duodenum/ Large intestine.
- State of Skin whether wrinkled or smooth

Write down the **Medico-Legal Significance** (Very important for all spots)

For eg:

- 1. Still-born child**
- 2. Criminal Abortion**
- 3. Infanticide**
- 4. Fabricated Abortion**
- 5. Marriage**
- 6. Divorce**
- 7. Adoption.**
- 8. Inheritance**

SPOT NO. 7: ABORTIFACIANT OR WET SPECIMEN

You have to write what do you know about the specimen. The question is generally not written with this specimen. If you find any question attached than you will have to write according to the question. You must write the medicolegal aspect,

Type of specimen given:

- **Abortion Stick**
- **Rin/Arial soap**
- **Hair pin**
- **Candle**
- **lota**
- **Any abortifaciant drug**

Note: This specimen can be replace with any other poison.



SPOT NO. 8: WET SPECIMEN

In this spot you will be given a wet specimen. You will have to comment upon that. Generally no question is written so you have to all the details you know about the given specimen. First identify the spot correctly than comment upon the feature what you see in the spot and than write down the medicolegal aspect of the spot. In case of injury like lacerated wound of the scalp you first identify it. Comment on the injury and write down the features of lacerated wound.



Type of Spot generally given:

- **Lacerated wound of the scalp**
- **Wound of entry and exit of a firearm**
- **Multiple pallet injury in case of a shotgun.**
- **Stab wound of heart.**

SPOT NO. 9 AND 10: WEAPON

In these spots generally two weapons are given one from firearm and another from other weapon. It is not necessary that both are from the weapons. One of these specimen can be replaced from other specimen.



Types of spots given in these two are:

- KIRPAN
- RAMPURI KNIFE
- AXE
- CHOPPER
- PISTOL
- REVOLVER
- EMPTY CARTRIDGE
- TYRE
- STONE
- CYCLE CHAIN
- SHOTGUN CARTRIDGE
- PELLETS
- SANDASI
- DRANTI
- HANSI
- BHALA
- BARCHHI
- KITCHEN KNIFE
- DANDA
- PHAWDA

Questions:

Identify the weapon and enumerate types of injuries caused by it?

Identify the weapon and draw a well labeled diagram?

Identify the weapon and write the medicolegal aspect of the injuries caused?

Note: It is not necessary that the above spots cover all the spotting examination. The order of the spots can also vary. There may be addition /deletion in any of the above given spot. These specimen are also be there in the grand viva. For details visit our website www.forensicindia.com

Apart from these some important specimen which are generally kept in spotting as well as for grand viva are given below:

- **Gastric Lavage tube [ewald's and baos tube]**
- **Infant feeding tube used for stomach wash in infants**
- **Ryles tube used for stomach in cases of young.**
- **Poppy Seeds or Khas khas used in cooking**
- **Alcohol bottle**
- **Mechanical irritant poison [hair, powdered glass, stone]**
- **Organophosphorus**
- **Alphose or celphos tablets**

After spotting students will be given **two exercises** one for age estimation of a hypothetical subject and another is injury report of the case given. The time given will be notified. The students are required to carefully listen to the instructions given before beginning.

1. AGE ESTIMATION

For age estimation the students are required to write a hypothetical age proforma for a specified age [commonly given are 12 year, 16 years, 18 years]. The students are required to write specifically the medicolegal significance of that particular age.

Question:

- Prepare a hypothetical age proforma for a 16 year old male.
- Prepare a hypothetical age proforma for a 18 year old male.

2. INJURY REPORT

The exercise will be written with full details of the board. The students are required to prepare an injury report for the same and in that put the relevant details at relevant place in their report. The students are requested to write to the point only.

Question: Shelendra Kumar 18 years old student was brought to casualty of J.N. Medical College on 05.02.1008 at 10.00 A.M. by his father Bhupesh Kumar R/o Flat No: 33, 1st Floor, Kaveri Residency Pitampura Tiraha Aligarh with the following injuries

- The right cheek was badly hurt by boiling liquid thrown over the face with severe pain and swelling red in colour.
- The right eye was absolutely no vision.
- The right multiple scratch marks red in colour.