

GPAT - 2020

TOTAL BITS

125 Bits

TOTAL MARKS

500 Marks (125B × 4M)

TIME

3 Hours

NEGATIVE MARK

1 Mark

QUALIFYING MARKS

OC

$163/500 \times 100$

~33%

~2000

EWS

$104/500 \times 100$

~21%

~500

OBC

$131/500 \times 100$

~26%

~1300

SC

$103/500 \times 100$

~21%

~700

ST

$76/500 \times 100$

~15%

~300

GOVT. JOBS

- i. RESEARCH OFFICER
- ii. DI/DCO/ACD
- iii. JSO
- iv. JA
- v. PROF./LECT
- vi. PHARMACIST (CGHS,ESIC,AIIMS,RAILWAYS,COAL INDIA ETC.,)

PHARMACEUTICS

~36 – 40 Bits

~32%

BIOLOGICAL PRODUCTS



SURGICAL SUTURES AND LIGATURES

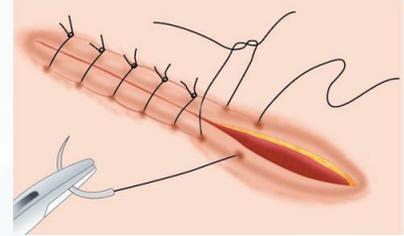
PRESENTED BY:
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PHARMACY OFFICER,
JHARKHAND STATE.

DEFINITIONS

Surgical sutures & ligatures are the strings (threads) specially prepared & sterilized for use in surgery

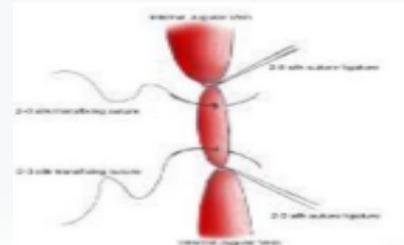
✓ **SURGICAL SUTURE**

It is a sterile string used to tie the tissues together (Skin, Muscle, Tendons etc.,)



✓ **SURGICAL LIGATURE**

It is a sterile string used to tie the blood vessels (Arteries & Veins)



CLASSIFICATION OF SURGICAL SUTURES & LIGATURES



ABSORBABLE SUTURES & LIGATURES

Strings digested in the tissue of body after wound has healed

EXAMPLE: CATGUT
KANGAROO TENDON
BROCAFIL



NON - ABSORBABLE SUTURES & LIGATURES

Strings not digested in the tissue of body after wound has healed

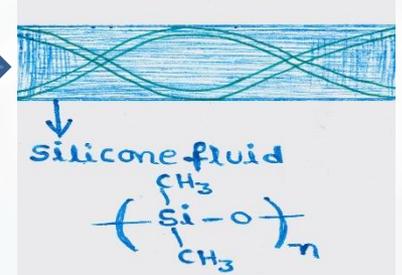
EXAMPLE: SILK
LINEN
COTTON
NYLON (Polyamide)
METALS (Ag) & ALLOY (Stainless Steel)

NON - ABSORBABLE SUTURES & LIGATURES

Monofilament

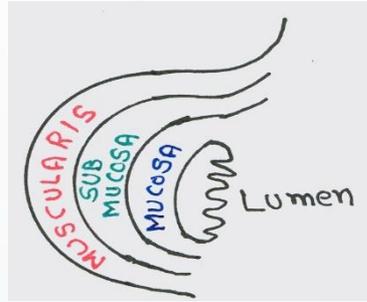


Braided



CATGUT

1. **SYNONYMS** – Kit gut/Violin gut/Surgical gut/collagen fibre
2. **SOURCE** – Submucosal layer of small intestine of healthy Sheep or Goat



3. CONTAMINANTS –

(Spore forming Gram Positive)

AEROBIC

EXAMPLES :

Bacillus species

ANAEROBIC

EXAMPLES:

Clostridium species

4. PREVENTION OF CONTAMINATION

Catguts are generally sterilized by

A) Heat process (160° for at least 1 hour – Sporicidal)

Disadv. – Heat treated strings are too stiff

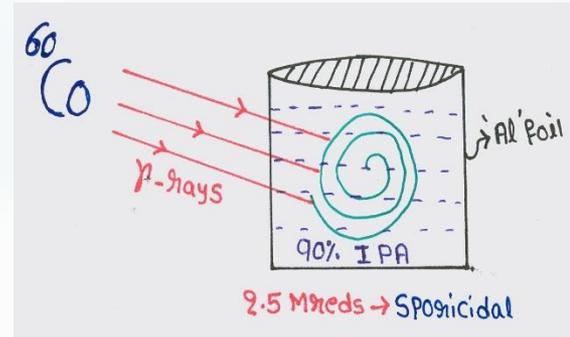
B) Chemical process

Chemicals used for sterilization must be Sporicidal (e.g., Ethylene Oxide)



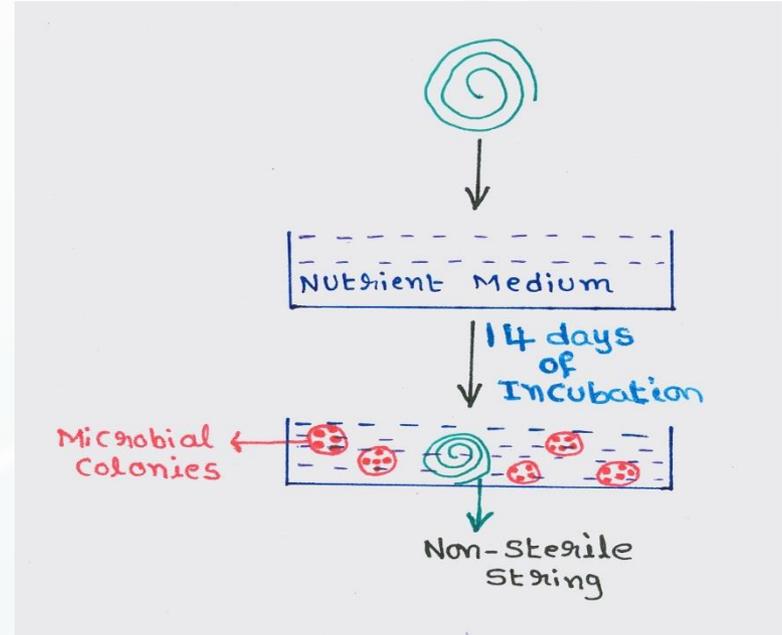
C) Irradiation process/ Cold Sterilization

Adv. – Irradiated strings are more flexible



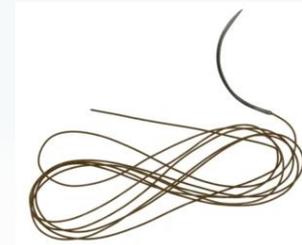
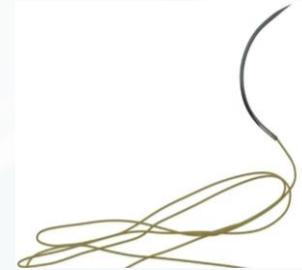
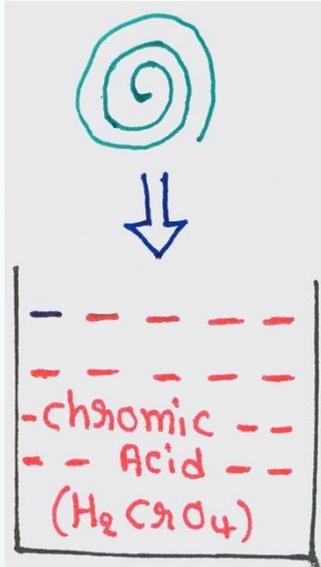
5. DETECTION OF CONTAMINANTS

- ✓ The strings are placed in suitable Nutrient media, after an incubation period of 14 days any growth of micro organisms are found then the strings are treated as Non-sterile.



6. HARDENING OR TANNING OF CATGUT

- ✓ Strings can be hardened/Tanned to delay the absorption time by soaking in a solution of Chromic Acid (H_2CrO_4).



PREVIOUS QUESTIONS:

GPAT – 2020, AP DI 2010

1. Violin gut is prepared from the intestine of :
- Horse
 - Cat
 - Camel
 - Sheep**

DCO – 2019, GATE 1993, AP DI 2008

2. The sterility test intended for surgicals require an incubation period of :
- 7 days
 - 14 days**
 - 21 days
 - 28 days

KNT DI – 2018, AP DI 2010

3. Hardening is one of the step in the preparation of catgut it can be done by soaking string in the solution of
- KMnO_4
 - K_2SO_4
 - VoSO_4
 - H_2CrO_4**



THANK YOU



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