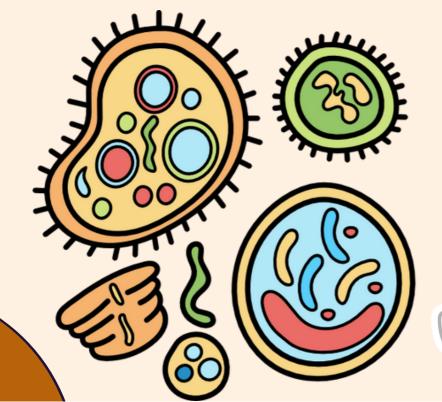


FINAL - 2022

Done by:

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Corrected by:
Ahmad Qawasmi





# 1) The resolution power of LM:

- A- 0.2 nanometer
- **B-0.2** micrometer
- C- 0.2 millimeter
- D-10 nanometer

#### Answer: B

## 2) 1 millimetre equals:

- A-1000 micrometer
- B-1000 nanometer
- C-100 micrometer
- D-100 nanometer

#### Answer: A

## 3) The last stage in mitosis is:

- **A-Prophase**
- **B- Metaphase**
- C- Anaphase
- **D- Prometaphase**
- E- Telophase

## **Answer: E**

## 4) Which of these come from umbilical cord:

- A- Adult stem cell
- **B- Embryonic stem cell**
- C- Hematopoietic stem cell
- D- Non of the above

Answer: C

- 5) Circular dsDNA molecule within a bacterial cell (physically separated from chromosomal DNA) can replicate independently:
- A- Plasmid
- **B-Virus**
- C-RNA
- D- Bacteria
- E- Non of the above

Answer: A

## 6) All of the following is correct about adult stem cell except:

- A- They are multipotent
- B- Have restricted ability to self-renew
- C- The production of adult stem cells does not require the destruction of an embryo
- Derived from blastocyst

Answer: D

# 7) The junction that prevent flow of material between cells is:

- A-Zonula occludens
- B- Zonula adherens
- C- Macula adherens
- D- Gap junction
- E- Non of the above

Answer: A

## 8) All of the following is composition of CAMs except:

- A-Integrins
- **B- Selectins**
- C- Nuclear domain
- **D- Cadherins**
- E- Members of IgSF

Answer: C

# 9) Break down damaged organells is the definition of:

- A- Programmed cell death
- **B- Autophagy**
- **C- Exocytosis**
- D- Non of the above

Answer: B

# 10) Regarding cytoskeleton, the correct from the following:

- A- Not stable
- **B- Contain microtubule**
- C- Contain microfilament
- D- Contain intermediate filament
- E- All of the above

Answer: E

# 11) The reason that mitochondria differ in number is:

- A- The shape
- **B- The size**
- C- The power output
- D- Amount of energy needed by the cell
- E- Non of the above

Answer: D



## 12) Why dehydration is step of tissue processing in paraffin technique:

- A- To remove the alcohol
- B- To remove the water
- C- To add water
- D- To add alcohol

**Answer: B** 

## 13) The hydrolytic enzymes found in:

- A-Cytoskeleton
- **B- Vacuoles**
- C-Lysosome
- **D- Peroxisome**
- E- ER

Answer: C

## 14) Which of the following is a membranous organelle:

- A- Cillia
- **B-Cytoskeleton**
- C- Ribosome
- **D- Peroxisome**
- **E- Centrioles**

Answer: D

# 15) Which of the following is incorrect about ribosomes:

- A- It is not bound on the inner part of nucleus membrane
- **B- Non-membranous organelle**
- C- It is the site of protein synthesis
- D- Cannot be seen by H&E

Answer: A

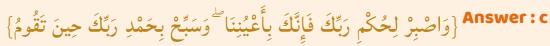
## 16) Where is the rRNA manufacture:

- A- In ribosome
- **B- In nucleolus**
- C- In cytoplasm
- D-In ER
- E- Non of the above

Answer: B

### 17) When does free chromosome become two chromatids:

- **A-Prophase**
- **B-Interphase**
- C- Anaphase
- **D** Telophase
- E- Metaphase





# 18) The correct order of the phases of mitosis:

- A-Interphase metaphase anaphase telophase
- B- Prophase metaphase anaphase telophase
- C- Prophase anaphase metaphase telophase
- D- Interphase anaphase metaphase telophase
- E- Anaphase metaphase prophase telophase

Answer: B

# 19) If a cell containing 40 chromosomes, divides meiosis, how many chromosomes will there be in the new cell:

- A-40
- **B-160**
- **C-20**
- D-640
- E-46

Answer: C

## 20) Synapsis occurs between which of the following:

- A- Two sister chromosome
- **B-Two heterologous chromosome**
- C- Two homologous chromosome
- D-Two non-sister chromosome

Answer: C

# 21) Which of these cells are the least ability to differentiate:

- A- Unipotent
- **B- Nullipotent**
- C- Totipotent
- **D- Pluripotent**

Answer: b

# 22) If a cell containing 40 chromosomes, divides mitosis, how many chromosome will there be in the new cell:

- **A-40**
- B-160
- C- 20
- D-640
- E-46

Answer: A



## 23) At what stage do chromatids separate:

- A- Metaphase
- **B- Anaphase**
- **C-Prophase**
- **D- Telophase**
- E- Prometaphase

## Answer: B

## 24) What is the longest phase in meiosis:

- A- Metaphase I
- **B- Metaphase II**
- C- Anaphase I
- **D-Prophase I**
- E- Prophase II

## Answer: D

## 25) At which stage does genetic crossing-over occur:

- A- Anaphase
- **B-Telophase**
- C- Metaphase
- **D-Interphase**
- **E- Prophase**

#### Answer: E

## 26) What are the process responsible for genetic recombination:

- A- Crossing over independent assortment
- B-Independent assortment crossing over
- C- Crossing over
- **D-Independent assortment**
- E- Non of the above

### Answer: A

## 27) When does cytokinesis occur:

- A- During metaphase
- **B- After metaphase**
- C- After telophase
- **D- During telophase**
- E- During anaphase

Answer: C



# 28) Which of the following is dyed by orcein stain:

- A- Nerve cells
- **B-** Largest artery
- C- Reticular fibers
- **D-** Mast cells
- E- Phagocytic cells

## Answer: B

# 29) The cell is inactive:

- A- Euchromatin only
- **B- Heterochromatin only**
- C- Euchromatin perdominant
- D- Heterochromatin perdominant
- E- Euchromatin & heterochromatin

# Answer: B

# 30) The cytoskeleton consist of:

- A- Microfilaments
- **B- Microtubules**
- C- Intermediate filaments
- D- All of the above

# Answer: D

# 31) Which of the following is incorrect regarding the cells:

- A- The genetic material are scattered in the Cytoplasm
- B- Ribosome is the site of protein synthesis
- C-Golgi apparatus secretion of cell product
- D- Mitochondria is the source of energy for the cell
- E- Cytoskeleton is regulate the internal structure

#### Answer: A

# 32) One of the following is correct about stem cell:

- A- They finish quickly
- B- Can make copies of itself and make specialized cells
- C- Cannot give mature cells
- D-There is one type of stem cells

#### Answer: B

## 33) What is the folds inside the mitochondia are called:

A- Thread C- Cristae

B- Granule D- mitos

Answer: C



# 34) What happens during metaphase (1) on meiosis:

- A- Arrangement of individual chromosomes in metaphaseal plate
- B-Arrangement of homologous chromosomes in metaphaseal plate
- C- Arrangement of heterologous chromosomes in metaphaseal plate
- D-Arrangement of non-sister chromosomes in metaphaseal plate

Answer: B

## 35) Which of the following is correct about EM:

- A- It is used to increase optical resolution and contrast
- B- The optimal image appear to have 3D character
- C- It can be use to visualize DNA, RNA, Protein
- D-Beam of electrons is used as source of light

Answer: D

## 36) The source of light in confocal microscope is:

- A- Laser C- visible source
- B- Beam electron D- Non of the above

Answer: A

## 37) Crossing over occurs in which stages of Prophase (1):

- A-Leptotene
- **B-Zygotene**
- C-Pachytene
- **D-Diakinesis**
- E- Diplotene

Answer: E

## 38) Which of the following result from meiosis:

- A-Somatic cells
- **B- Sex cells**
- C- Stem cells
- D- Non of the above

**Answer: B** 

# 39) Which of the following is the source of embryonic stem cells:

- A- Inner cell mass of blastocyst
- **B- Bone marrow**
- C- Teeth
- D- Cord blood

Answer: A





- A- When use iPSC, the patient will get the new tissue that he need with little immune rejection
- B- They can specialized for some cells in the body
- C- Mature cells can be reprogrammed to become pluripotent
- D-Done by introduce a huge specific pluripotency genes

Answer: C

## 41) The process of production a population of genetically identical individuals is:

- A- Molecular cloning
- **B- Mitosis**
- **C- Meiosis**
- **D- Reproductive cloning**

Answer: D

## 42) Gene knockout is:

A- Transgenic organisms C- gene therapy

B- Loss of function D- insulin production

**Answer: B** 

## 43) Which of the following is correct about extra-cellular matrix:

- A- It is thick layer of fluid surround the body cells
- B- The reticular lamina formed by reticular fibbers thinner than basal lamina
- C- The basement membrane is only seen by EM
- D- It is sheet like deposition at the base of cells

Answer: D

# 44) Piece of DNA used to insert an important DNA fragment into it:

- A- Vector
- **B- Gene**
- C- Chromosome
- D- Centriole

Answer: A

{وَاصْبِرْ لِحُكْمِ رَبِّكَ فَإِنَّكَ بِأَعْيُنِنَا ﴿ وَسَبِّحْ بِحَمْدِ رَبِّكَ حِينَ تَقُومُ }



"(لَا تُرْهِقْ قَلْبَكَ بِالْحُرْنِ، فَإِنَّهُ لَا يَرُدُّ مَفْقُودًا، وَ لَا يَحْفَظُ مَوْجُودًا، وَ إِمْلَأُ قَلْبَكَ بِمَا يُقَوِّيهِ مِنَ الثَّقَةِ بِاللهِ، وَ تَفْوِيضِ الْأَمْرِ إِلَيْهِ، وَ الْإِعْرَاضِ عَنِ الِالْتِفَاتِ لِغَيْرِهِ، وَ حُسْنِ الظَّنِّ بِهِ، وَ الْإِعْرَاضِ عَنِ الِالْتِفَاتِ لِغَيْرِهِ، وَ حُسْنِ الظَّنِّ بِهِ، وَ الْيَقِينِ أَنَّ الْخِيرَةَ فِيمَا إِخْتَارَهُ، فَتِلْكَ صُلْوَةُ الْحَرِينِ، وَ سَكِينَةُ قُلُوبِ الْمُؤْمِنِينَ)". اللهُ وَسَكِينَةُ قُلُوبِ الْمُؤْمِنِينَ)".

الْعُصَيْمِيّ . حَفِظَهُ اللهُ .

