

# DU PhD In Biomedical Sciences

Topic:- DU\_J19\_PHD\_BIOSCI

## 1) Which is true about composition of Blood

[Question ID = 896]

1. Plasma-45%, Protein/WBC-4%, RBC- 51% [Option ID = 3583]
2. Plasma-50%, Protein/WBC-3%, RBC- 47% [Option ID = 3582]
3. Plasma-35%, Protein/WBC-2%, RBC- 65% [Option ID = 3584]
4. Plasma-55%, Protein/WBC-1%, RBC- 45% [Option ID = 3581]

**Correct Answer :-**

- Plasma-55%, Protein/WBC-1%, RBC- 45% [Option ID = 3581]

## 2) Central – Supramolecular Associated Clusters and Peripheral- Suramolecular Associated clusters relate to: [Question ID = 873]

1. Specific regions in the immune synapse [Option ID = 3492]
2. miRNAs in Introns for innate immunity [Option ID = 3491]
3. Genes for B cell maturation [Option ID = 3489]
4. Genes for T cell maturation [Option ID = 3490]

**Correct Answer :-**

- Specific regions in the immune synapse [Option ID = 3492]

## 3) HVEM and LIGHT are [Question ID = 879]

1. Costimulatory molecules that regulate immune response [Option ID = 3513]
2. Kinases that regulate immune responses [Option ID = 3515]
3. Transcription factors that regulate immune responses [Option ID = 3514]
4. Phosphatases that regulate immune response [Option ID = 3516]

**Correct Answer :-**

- Costimulatory molecules that regulate immune response [Option ID = 3513]

## 4) The LD50 is calculated from: [Question ID = 910]

1. a quantal dose-response curve [Option ID = 3637]
2. a log-log dose-response curve [Option ID = 3640]
3. a graded dose-response curve [Option ID = 3639]
4. a hormesis dose –response curve [Option ID = 3638]

**Correct Answer :-**

- a quantal dose-response curve [Option ID = 3637]

## 5) During the development, if a cell has committed to a particular fate, it is said to be

**[Question ID = 901]**

1. totipotent [Option ID = 3602]
2. differentiated [Option ID = 3604]
3. Pluripotent [Option ID = 3601]
4. determined [Option ID = 3603]

**Correct Answer :-**

- determined [Option ID = 3603]

**6) During isotonic contraction of a skeletal-muscle fibre the**

**[Question ID = 892]**

1. Sarcomeres shorten and I bands shorten. [Option ID = 3568]
2. I bands shorten. [Option ID = 3567]
3. A bands shorten. [Option ID = 3566]
4. Sarcomeres shorten. [Option ID = 3565]

**Correct Answer :-**

- Sarcomeres shorten and I bands shorten. [Option ID = 3568]

**7) LDA is used as [Question ID = 890]**

1. None of these [Option ID = 3560]
2. A dehydrating agent [Option ID = 3559]
3. An acid [Option ID = 3558]
4. A base [Option ID = 3557]

**Correct Answer :-**

- A base [Option ID = 3557]

**8) Action of traditional NSAID's [Question ID = 906]**

1. Do not inhibit COX-1 or COX-2 [Option ID = 3623]
2. Inhibit COX-1 [Option ID = 3621]
3. Both Inhibit COX-1 and Inhibit COX-2 [Option ID = 3624]
4. Inhibit COX-2 [Option ID = 3622]

**Correct Answer :-**

- Both Inhibit COX-1 and Inhibit COX-2 [Option ID = 3624]

**9) CD69 and Ki-67 are [Question ID = 876]**

1. B cell activation markers [Option ID = 3502]
2. Macrophage activation marker [Option ID = 3504]
3. Dendritic cell activation markers [Option ID = 3503]
4. T cell activation markers [Option ID = 3501]

**Correct Answer :-**

- T cell activation markers [Option ID = 3501]

**10) Chromosomes found in the salivary gland of Drosophila is [Question ID = 899]**

1. Lampbrush [Option ID = 3593]
2. B-chromosomes. [Option ID = 3596]

3. Supernumerary [Option ID = 3595]
4. Polytene [Option ID = 3594]

**Correct Answer :-**

- Polytene [Option ID = 3594]

**11) MAGE, PRAME and NY-ESO-1 are examples of [Question ID = 875]**

1. Virulence factors of Staphylococcus aureus [Option ID = 3498]
2. B cell maturation marker [Option ID = 3500]
3. Tumor antigens [Option ID = 3499]
4. Allergens [Option ID = 3497]

**Correct Answer :-**

- Tumor antigens [Option ID = 3499]

**12) The completion of translocation requires the action of the factor \_\_\_\_\_ [Question ID = 868]**

1. EF-G [Option ID = 3470]
2. eIF2 [Option ID = 3471]
3. eIF4G [Option ID = 3472]
4. EF-Tu [Option ID = 3469]

**Correct Answer :-**

- EF-G [Option ID = 3470]

**13) Erythropoietin secretion is stimulated by [Question ID = 897]**

1. Low blood volume, Anemia, poor blood flow [Option ID = 3585]
2. Pulmonary diseases, hypererythremia, excess blood flow [Option ID = 3587]
3. Low blood volume, hypererythremia, pulmonary diseases [Option ID = 3588]
4. Low Hemoglobin, excess blood flow [Option ID = 3586]

**Correct Answer :-**

- Low blood volume, Anemia, poor blood flow [Option ID = 3585]

**14) Some neurons in the vagus nerve terminate on sinoatrial (pacemaker) cells in the heart. These neurons secrete acetylcholine, which ultimately results in a decreased heart rate. This is an example of [Question ID = 891]**

1. Exocrine Control [Option ID = 3562]
2. Hormonal Control [Option ID = 3564]
3. Endocrine Control [Option ID = 3563]
4. Neural Control [Option ID = 3561]

**Correct Answer :-**

- Neural Control [Option ID = 3561]

**15) Plasmids are important to many bacteria because**

**[Question ID = 904]**

1. Both (They can render bacteria drug resistant) and (They may carry genes that give their host a selective advantage) [Option ID = 3616]
2. None of the above [Option ID = 3615]

3. They can render bacteria drug resistant. [Option ID = 3614]
4. They may carry genes that give their host a selective advantage [Option ID = 3613]

**Correct Answer :-**

- Both (They can render bacteria drug resistant) and (They may carry genes that give their host a selective advantage) [Option ID = 3616]

**16) In order for the lungs to function normally, the intrapleural pressure must [Question ID = 894]**

1. alternate between being less than and greater than atmospheric pressure. [Option ID = 3575]
2. be lower than alveolar pressure. [Option ID = 3573]
3. change as the respiratory demands of the body change. [Option ID = 3576]
4. be between +5 and +10 mmHg above atmospheric pressure. [Option ID = 3574]

**Correct Answer :-**

- be lower than alveolar pressure. [Option ID = 3573]

**17) Once the tRNA is aminoacylated, EF-Tu binds to the tRNA at the \_\_\_\_\_ [Question ID = 867]**

1. Amino acid [Option ID = 3467]
2. 5' end of the tRNA [Option ID = 3465]
3. Variable loop of tRNA [Option ID = 3468]
4. 3' end of the tRNA [Option ID = 3466]

**Correct Answer :-**

- 3' end of the tRNA [Option ID = 3466]

**18) The initial dorsal ventral axis in amphibian embryo is determined by [Question ID = 902]**

1. the point of contact with uterus [Option ID = 3607]
2. genetics difference in the cells [Option ID = 3608]
3. the point of sperm entry [Option ID = 3605]
4. gravity [Option ID = 3606]

**Correct Answer :-**

- the point of sperm entry [Option ID = 3605]

**19) Mendel's principle of dominance stated that when an individual has a hybrid genotype, it will only express the dominant trait in its phenotype. Which of the following types of inheritance do not agree with this principle?**

**I) co-dominance**

**II) multiple alleles**

**III) incomplete dominance [Question ID = 898]**

1. I and II only [Option ID = 3589]
2. I and III only [Option ID = 3591]
3. II and III only [Option ID = 3590]
4. I, II and III [Option ID = 3592]

**Correct Answer :-**

- I, II and III [Option ID = 3592]

**20) MICA and MICB are [Question ID = 871]**

1. Mouse Incomplete C-Reactive Antigen A and B [Option ID = 3483]
2. Major Histocompatibility Complex molecules that regulate immunity [Option ID = 3481]
3. Micro- Interleukin Complex A and B [Option ID = 3484]
4. Memory Induced Complementary Antigen A and B [Option ID = 3482]

**Correct Answer :-**

- Major Histocompatibility Complex molecules that regulate immunity [Option ID = 3481]

**21) The enzyme of E.coli that initiates the repair of double stranded DNA breaks by homologous recombination ( base excision repair in DNA) [Question ID = 864]**

1. DNA polymerase [Option ID = 3455]
2. RNA polymerase [Option ID = 3456]
3. DNA glycosylase [Option ID = 3453]
4. DNA ligase [Option ID = 3454]

**Correct Answer :-**

- DNA glycosylase [Option ID = 3453]

**22) Drosophila has four pairs of chromosomes. How many linkage groups does it have [Question ID = 900]**

1. One more than the pairs of chromosomes [Option ID = 3600]
2. Eight [Option ID = 3597]
3. Four [Option ID = 3598]
4. One less than the pairs of chromosomes [Option ID = 3599]

**Correct Answer :-**

- Four [Option ID = 3598]

**23) Aniline reacts with 2 moles of Methylchloride to yield [Question ID = 888]**

1. 2,4-Dimethylaniline [Option ID = 3552]
2. N,N-dimethylaniline [Option ID = 3549]
3. Toluene [Option ID = 3550]
4. 4-Methylaniline [Option ID = 3551]

**Correct Answer :-**

- N,N-dimethylaniline [Option ID = 3549]

**24) What is bioavailability? [Question ID = 908]**

1. The amount of available drug to be used for biological testing [Option ID = 3629]
2. The amount of drug that is biometrically excreted in your blood [Option ID = 3632]
3. The amount of blood that is available for transfusion [Option ID = 3631]
4. The amount of medication in your blood that is available to produce an effect [Option ID = 3630]

**Correct Answer :-**

- The amount of medication in your blood that is available to produce an effect [Option ID = 3630]

**25) What is the function of the  $\omega$  subunit of RNA polymerase? [Question ID = 865]**

1. Subunit association [Option ID = 3457]
2. Cation binding [Option ID = 3460]
3. Promoter binding [Option ID = 3458]
4. Initiation and elongation [Option ID = 3459]

**Correct Answer :-**

- Subunit association [Option ID = 3457]

**26) Most of the CO<sub>2</sub> that is transported in blood [Question ID = 895]**

1. is in bicarbonate ion. [Option ID = 3580]
2. is bound to hemoglobin. [Option ID = 3578]
3. is in carbonic acid. [Option ID = 3579]
4. is dissolved in the plasma. [Option ID = 3577]

**Correct Answer :-**

- is in bicarbonate ion. [Option ID = 3580]

**27) At the end of each phase of cell cycle, cyclins activating Cdks in that phase are inactivated irreversibly by [Question ID = 870]**

1. Ubiquitinylation [Option ID = 3479]
2. Destabilizing by proteolysis in a proteasome [Option ID = 3480]
3. De-phosphorylation [Option ID = 3478]
4. Multiple phosphorylations [Option ID = 3477]

**Correct Answer :-**

- Destabilizing by proteolysis in a proteasome [Option ID = 3480]

**28) Gram Positive bacteria [Question ID = 903]**

1. Have one more membrane that helps retain the crystal violet stain [Option ID = 3609]
2. Have multiple layers of peptidoglycan that help retain the crystal violet stain [Option ID = 3610]
3. Have periplasmic space that trap the crystal violet [Option ID = 3612]
4. Have a thick capsule that traps the crystal violet stain [Option ID = 3611]

**Correct Answer :-**

- Have multiple layers of peptidoglycan that help retain the crystal violet stain [Option ID = 3610]

**29) The reaction of benzoic acid and sodium bicarbonate yields [Question ID = 887]**

1. 1-Phenylethane [Option ID = 3548]
2. Benzaldehyde [Option ID = 3545]
3. Benzyne [Option ID = 3547]
4. Sodium benzoate [Option ID = 3546]

**Correct Answer :-**

- Sodium benzoate [Option ID = 3546]

**30) The reaction of Lithium acetylide with n-Butyl bromide yields [Question ID = 886]**

1. 1-Butyne [Option ID = 3544]
2. 1-Hexyne [Option ID = 3542]
3. 1-Heptyne [Option ID = 3543]
4. 1-Pentyne [Option ID = 3541]

**Correct Answer :-**

- 1-Hexyne [Option ID = 3542]

**31) The reaction of water with ethylene oxide yields in the presence of acid [Question ID = 882]**

1. 1,2-Ethanediol [Option ID = 3525]
2. Ethanol [Option ID = 3526]
3. Acetaldehyde [Option ID = 3528]
4. Acetic acid [Option ID = 3527]

**Correct Answer :-**

- 1,2-Ethanediol [Option ID = 3525]

**32) Magnetosomes present in some bacteria [Question ID = 905]**

1. Help cells attach to metal object [Option ID = 3617]
2. Help cells to orient in earth magnetic field [Option ID = 3620]
3. Help cells to float on the surface of fresh water bodies [Option ID = 3619]
4. help cells to magnetically attach to each other [Option ID = 3618]

**Correct Answer :-**

- Help cells to orient in earth magnetic field [Option ID = 3620]

**33) MAIT stands for: [Question ID = 872]**

1. Mucosal Associated Invariant T cell [Option ID = 3486]
2. Micro-RNA Associated Inducible T cells [Option ID = 3488]
3. Minor antigen of Inducible T cell [Option ID = 3485]
4. Memory Associated islet cell [Option ID = 3487]

**Correct Answer :-**

- Mucosal Associated Invariant T cell [Option ID = 3486]

**34) MyD88, IRAK1 and IRAKM are molecules that belong to the: [Question ID = 878]**

1. Toll like receptor induced signaling pathway [Option ID = 3512]
2. T cell receptor induced signaling pathway [Option ID = 3510]
3. EGF receptor induced signaling pathway [Option ID = 3511]
4. B cell receptor induced signaling pathway [Option ID = 3509]

**Correct Answer :-**

- Toll like receptor induced signaling pathway [Option ID = 3512]

**35) n-Butane reacts with Sulphur at 560°C to yield [Question ID = 889]**

1. None of these [Option ID = 3556]
2. Dibutyldisulfide [Option ID = 3554]
3. Thiophene [Option ID = 3555]
4. Butane thiol [Option ID = 3553]

**Correct Answer :-**

- Thiophene [Option ID = 3555]

**36) T-bet and GATA are: [Question ID = 877]**

1. Cytokines that regulate cell differentiation into plasma cells and memory cells, respectively [Option ID = 3507]
2. Transcription factors that promote T helper cell 2 and T helper cell 1 differentiation marker, respectively [Option ID = 3506]
3. Transcription factors that promote T helper cell 1 and T helper cell 2 differentiation, respectively [Option ID = 3505]

4. Proteins secreted by cytotoxic T cells that kill infected macrophages [Option ID = 3508]

**Correct Answer :-**

- Transcription factors that promote T helper cell 1 and T helper cell 2 differentiation, respectively [Option ID = 3505]

**37) Potassium sparing diuretics have the primary effect upon which part of the kidney. [Question ID = 911]**

1. Collecting duct [Option ID = 3643]
2. Loop of Henle [Option ID = 3642]
3. Proximal convoluted tubule [Option ID = 3641]
4. Distal convoluted tubule [Option ID = 3644]

**Correct Answer :-**

- Distal convoluted tubule [Option ID = 3644]

**38) Atopic individuals are: [Question ID = 874]**

1. Prone to allergy [Option ID = 3493]
2. Prone to autoimmunity [Option ID = 3494]
3. Tolerant to allergy [Option ID = 3495]
4. Tolerant to infection [Option ID = 3496]

**Correct Answer :-**

- Prone to allergy [Option ID = 3493]

**39) A transition state of high energy is formed in the following reaction [Question ID = 883]**

1. None of these [Option ID = 3532]
2. SN2 [Option ID = 3530]
3. SN1 [Option ID = 3529]
4. E1 [Option ID = 3531]

**Correct Answer :-**

- SN2 [Option ID = 3530]

**40) Plasmid stability in cells is maintained by [Question ID = 880]**

1. Par [Option ID = 3519]
2. Ori gene [Option ID = 3518]
3. RepA [Option ID = 3517]
4. Rop [Option ID = 3520]

**Correct Answer :-**

- Par [Option ID = 3519]

**41) Which of the following is a long-term side effect of amphetamine? [Question ID = 912]**

1. hair loss [Option ID = 3646]
2. constipation [Option ID = 3647]
3. depression [Option ID = 3648]
4. Euphoria [Option ID = 3645]

**Correct Answer :-**

- Euphoria [Option ID = 3645]



**42) Which of the following is an Antihistamine? [Question ID = 907]**

1. Chlorpheniramine [Option ID = 3625]
2. Pseudoephedrine [Option ID = 3626]
3. Glycopyrrolate [Option ID = 3627]
4. Epinephrin [Option ID = 3628]

**Correct Answer :-**

- Chlorpheniramine [Option ID = 3625]

**43) Which of the following is the primary site of activity for the drug Warfarin? [Question ID = 909]**

1. Liver [Option ID = 3634]
2. Kidney [Option ID = 3633]
3. Blood [Option ID = 3635]
4. Heart [Option ID = 3636]

**Correct Answer :-**

- Liver [Option ID = 3634]

**44) Which of the following is an Ubiquitin activating enzyme? [Question ID = 869]**

1. E2 [Option ID = 3474]
2. E3 [Option ID = 3475]
3. E4 [Option ID = 3476]
4. E1 [Option ID = 3473]

**Correct Answer :-**

- E1 [Option ID = 3473]

**45) For chronic myeloid leukemia one of the best chemotherapy drugs used is: [Question ID = 863]**

1. Adriamycin [Option ID = 3451]
2. cisplatin [Option ID = 3452]
3. Bleomycin [Option ID = 3450]
4. Imatinib [Option ID = 3449]

**Correct Answer :-**

- Imatinib [Option ID = 3449]

**46) According to the Frank-Starling mechanism of the heart, [Question ID = 893]**

1. the intrinsic rate of the heart's pacemaker is 100 beats/min. [Option ID = 3570]
2. stroke volume increases with increased venous return. [Option ID = 3572]
3. the left ventricle ejects a larger volume of blood with each systole than the right ventricle. [Option ID = 3569]
4. cardiac output increases with increased heart rate. [Option ID = 3571]

**Correct Answer :-**

- stroke volume increases with increased venous return. [Option ID = 3572]

**47) DNA ligase [Question ID = 881]**

1. Facilitate Phosphodiester bonds [Option ID = 3522]
2. Synthesizes DNA in 5'- 3' direction [Option ID = 3521]
3. Prevent DNA from restriction endonuclease mediated digestion [Option ID = 3524]
4. Maintain plasmid supercoiling [Option ID = 3523]

**Correct Answer :-**

- Facilitate Phosphodiester bonds [Option ID = 3522]

**48) Formation of turbidity on reaction of a plant extract with Phosphomolybdic acid indicates the presence of [Question ID = 885]**

1. a phytosteroid [Option ID = 3538]
2. a triterpenoid [Option ID = 3540]
3. an alkaloid [Option ID = 3537]
4. a carboxylic acid [Option ID = 3539]

**Correct Answer :-**

- an alkaloid [Option ID = 3537]

**49) Crystal violet is used [Question ID = 884]**

1. as a Lewis base [Option ID = 3536]
2. to dye silk and wool [Option ID = 3534]
3. as an acid base indicator [Option ID = 3533]
4. for dehydration [Option ID = 3535]

**Correct Answer :-**

- to dye silk and wool [Option ID = 3534]

**50) Four types of  $\sigma$  factors are known ,of them which one used during Nitrogen deficiency? [Question ID = 866]**

1.  $\sigma^{54}$  [Option ID = 3463]
2.  $\sigma^{32}$  [Option ID = 3462]
3.  $\sigma^{28}$  [Option ID = 3464]
4.  $\sigma^{70}$  [Option ID = 3461]

**Correct Answer :-**

- $\sigma^{54}$  [Option ID = 3463]