

**B.V.Sc. & A.H. (Part - IV) Examination - 2016  
of the Five-Year Degree Course**

**VETERINARY PHARMACOLOGY PAPER-II**

**Time: Three Hours**

**Maximum Marks: 100**

Section A: Veterinary Chemotherapy: VPT-411

Section B: Veterinary Toxicology: VPT-421

Marks 50

Marks 50

**Instructions:**

- 1) Attempt all questions
- 2) Answer of all questions is to be written in the space provided along with the question in question-booklet.
- 3) Overwriting is not allowed in the objective type question.

**SECTION - A**

**Veterinary Chemotherapy: VPT-411**

**Maximum Marks 50**

**Q.1 Fill in the blanks.**

**(10x0.75 = 7.5)**

- i) \_\_\_\_\_ is recognized as the Father of Chemotherapy.
- ii) Miconazole and clotrimazole are \_\_\_\_\_ (topical/systemic) imidazole derivative antifungal agents.
- iii) Levamisole in addition to the anthelmintics activity has \_\_\_\_\_ activity.
- iv) For cleaning of the purulent and pocketing wound, hydrogen peroxide solution is used having a concentration of \_\_\_\_\_ %.
- v) Chloramphenicol exhibits its antibacterial action through the inhibition of \_\_\_\_\_ ribosomal subunit.
- vi) \_\_\_\_\_ is the anthelmintic which possesses exceptionally high activity against immature stages of flukes.
- vii) The metabolite of phenothiazine causing photosensitization is \_\_\_\_\_.
- viii) Sulfonamides exert the antibacterial action by inhibiting the enzyme \_\_\_\_\_.
- ix) The primary site of action of avermectins in nematodes is \_\_\_\_\_.

- x) \_\_\_\_\_ is a benzimidazole anthelmintic which is exclusively used as fasciolicide for cattle, sheep, goats etc.

**Q.2 Choose the most suitable answer and write the number of the correct answer 1 or 2 or 3 or 4 in the space given against each sub question: (10x0.75 = 7.5)**

- i) Natural source of amphotericin B is: ( )  
 1. *Streptomyces aureofaciens*  
 2. *Streptomyces nodosus*  
 3. *Streptomyces erythreus*  
 4. *Streptomyces venezuelae*
- ii) Bone marrow suppressant activity of chloramphenicol occurs due to: ( )  
 1. Amino group  
 2. Alcoholic group  
 3. Para-nitro group  
 4. Lactam ring
- iii) Use of fluoroquinolones is not recommended in young and growing due to the following: ( )  
 1. Idiosyncratic aplastic anaemia  
 2. Hepatotoxicity  
 3. Renal toxicity  
 4. Arthropathic lesions.
- iv) Sulphonamide is combined with trimethoprim in the ratio of: ( )  
 1. 1:5.  
 2. 5:1.  
 3. 1:3.  
 4. 3:1.
- v) Which of the following inhibits lanosterol 14- $\alpha$  demethylase: ( )  
 1. Amphotericin B.  
 2. Ketoconazole.  
 3. Griseofulvin.  
 4. Flucyosin.
- vi) Bleomycin acts on ..... phase of cell cycle: ( )  
 1. S.  
 2. G<sub>2</sub>.  
 3. G<sub>1</sub>.  
 4. M.
- vii) Which of the following cephalosporin is excreted through bile: ( )  
 1. Cefepime.  
 2. Cefoperazone.  
 3. Cefixime.  
 4. Ceftiazoxome.

- viii) The concept of chemotherapy was started with the use of : ( )
1. Sulphonamide.
  2. Penicillin.
  3. Protosil dye.
  4. Bacitracin.
- ix) One unit of penicillin is the specific activity contained in .....of penicillin G sodium: ( )
1. 0.5  $\mu\text{g}$ .
  2. 0.6  $\mu\text{g}$ .
  3. 0.7  $\mu\text{g}$ .
  4. 0.8  $\mu\text{g}$ .
- x) Nitrofurantoin is most effective as urinary antiseptic when pH of the urinary tract is: ( )
1. Neutral
  2. 5.5 or less
  3. Over 9.5
  4. Between 6 and 7.

**Q.3 Attempt any ten out of the following twelve questions. Answer of each question should be in 2 to 3 lines. (10x1.5= 15)**

- i) Define post-antibiotic effect.

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- ii) Why alkalization reduces risk of sulphonamide-induced nephrotoxicity?

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- iii) Write down the function of B subunit of DNA gyrase

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iv) How does sulphonamide affect egg production in poultry?

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v) Explain the mechanism of action of griseofulvin.

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vi) Tetracycline should not be used in rapid i.v. infusion. Justify.

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vii) What is superinfection?

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viii) Explain the mechanism of action of benzimidazole.

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ix) Define MIC.

x) Describe the mechanism of action of vincristine.

xi) An ideal antifungal agent should also possess keratolytic property. EXPLAIN:

xii) Enumerate the adverse effects of anticancer therapy.

**Q.4 Attempt any two out of the following three questions. Answer of each question should be in 5 to 8 lines. (2x5 = 10)**

i) Explain the mechanism of sequential blockade.

ii) Explain the mechanism of action of fluroquinolone.

iii) Write down the mechanism of action of ketoconazole.

**Q.5 Answer the following question in 1-2 pages (attempt any one). (1x10 = 10)**

- i) What are properties of aminoglycosides? Explain the mechanism of action and toxicity/side effects of aminoglycosides. (2+4+4)
- ii) Classify the antibacterial agents based on their mechanism of action with atleast two suitable examples of each. Describe in details the mechanism of action, clinical indication and toxicity of sulfonamides. (2+3+3+2)

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## SECTION - B

Veterinary Toxicology: VPT-421

Maximum Marks 50

Q.6 Fill in the blanks.

(10x0.75 = 7.5)

- i) Typical mousy odour in urine is an indicative of \_\_\_\_\_ poisoning.
- ii) The active moiety of zinc phosphide responsible for toxicity is \_\_\_\_\_.
- iii) Antidote of iron toxicity is \_\_\_\_\_.
- iv) Rice water diarrhoea is commonly encountered in \_\_\_\_\_ poisoning in cattle.
- v) \_\_\_\_\_ is recognized as Father of Modern Toxicology.
- vi) The neoplastic factor in bracken fern is termed as \_\_\_\_\_.
- vii) \_\_\_\_\_ cause drowning of animal in its own fluid.
- viii) Fluoroacetate acts by inhibiting \_\_\_\_\_ enzyme in cellular respiration.
- ix) Phossy jaw is a characteristic of \_\_\_\_\_ poisoning.
- x) The ideal ratio of copper to molybdenum is \_\_\_\_\_.

Q.7 Choose the most suitable answer and write the number of the correct answer 1 or 2 or 3 or 4 in the space given against each sub question: (10x0.75 = 7.5)

- i) Paralysis of recurrent laryngeal nerve in horse is associated with : (      )
  1. Cadmium poisoning
  2. Arsenic poisoning
  3. Lead poisoning
  4. Copper poisoning
- ii) Following is an obligate accumulator of selenium : (      )
  1. Aster
  2. Astragalus
  3. Barley
  4. Atriplex
- iii) Bitter almond smell is seen in case of : (      )
  1. Arsenic poisoning
  2. Nitrate poisoning
  3. Cyanide poisoning
  4. None of the above
- iv) Kaner causes cardiotoxicity by inhibiting the enzyme: (      )
  1. Adenylyl cyclase
  2.  $\text{Na}^+\text{-K}^+\text{-ATPase}$
  3. Phospholipase C
  4. Phospholipase A



- v) Primary photosensitization is caused by following EXCEPT: ( )
1. Acridine dye
  2. *Fagopyrum esculantum*
  3. *Lantana camera*
  4. *Hypericum perforatum*

- vi) Which of the following toxicity is associated with red cell fragility and hemolysis : ( )
1. Arsenic toxicity
  2. Mercury toxicity
  3. Lead toxicity
  4. Copper toxicity.

- vii).....is also known as '*sui poison*' : ( )
1. Strychnine
  2. Ricin
  3. Abrin
  4. Nerin

- viii) Haemolytic crisis in sheep due to copper toxicity is.....condition: ( )
1. Acute
  2. Subacute
  3. Peracute
  4. Chronic

- ix) Typical '*saw horse*' posture is seen with: ( )
1. Abrus.
  2. Ipomea
  3. Strychnine
  4. Ricinus.

- x) Strychnine causes toxicity by inhibiting ..... receptor: ( )
1. GABA.
  2. Muscarinic.
  3. Glycine.
  4. Nicotinic.

**Q.8 Attempt any ten out of the following twelve questions. Answer of each question should be in 2 to 3 lines. (10x1.5= 15)**

- i) Why ruminants are more resistant to bracken fern poisoning than horses?

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ii) ANTU is more toxic when given in full stomach in dogs---why?

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iii) Excess methylene blue is harmful in nitrite toxicity.

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iv) Why melathion is less toxic to mammals compared to insects?

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v) Differentiate between Type-I and Type-II synthetic pyrethroids on basis of their mechanism of action.

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vi) Define developmental toxicology.

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vii) Explain lethal synthesis with suitable example.

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viii) Define MRL.

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ix) Write down the composition of universal antidote.

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x) Justify the rationale use of Vit-K1 in warfarin toxicity.

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xi) What do you mean by Blind staggers.

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xii) Define the term poison.

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**Q.9 Attempt any two out of the following three questions. Answer of each question should be in 5 to 8 lines. (2x5 = 10)**

i) Discuss the mechanism of toxicity of organochlorine.

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ii) Explain haemolytic crisis in sheep.

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iii) Write down the rationale of treatment of cyanide toxicity.

**Q.10 Answer the following question in 1-2 pages (attempt any one). (1x10 = 10)**

- i) Write down the mechanism of toxicity, clinical sign and treatment of lead toxicity. (4+3+3)
- ii) What is photosensitization? Discuss mechanism of different types of photosensitization with suitable examples. Describe the treatment of photosensitization. (2+ 5+ 3)