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**Chapter 08: Emerging Diseases of Poultry and Health Management**

**Wadajkar prasad, Monika M.**

1. ROUP is synonym of ………………… disease.- **Infectious coryza**
2. *Haemophiles paragallinarum* previously known as …………………………- ***avibacterium paragallinarum***
3. In Infectious coryza which of the following strain is most pathogenic
4. C strain
5. **B strain**
6. A strain
7. None of the above
8. Swollen head syndrome is confused with which of the given disease
9. Fowl pox
10. Chicken infectious anemia
11. **Infectious coryza**
12. Infectious synovitis
13. Infectious coryza shows foul smelling discharge from …………. & ………- **Nostril & Eye**
14. Infectious coryza shows swelling on the
15. Face only
16. Vent only
17. **Face & comb**
18. All of the above
19. Exudate deposition in ………………… sinus causes swollen face in Infectious coryza.- **Infraorbital**
20. Immunoperoxidase test is useful in ……………. Disease diagnosis. -**Infectious coryza**
21. For treatment of Infectious coryza which of the following is the choice of drug
22. Amoxycillin & enrofloxacin
23. Sulphadiazine & trimethoprime
24. **Sulphachloropyridazine & trimethoprim**
25. Sulphathiazole & trimethoprime
26. *Galibacterium anatis* is biovar produces mild diseases in
27. Turkey
28. Poultry (chicken)
29. Guinea fowl
30. **Duck and geese**
31. Symptom of *gallibacterium* infection shows
32. **Pasty vent**
33. Nasal discharge
34. Drooling of saliva
35. Misshapen egg
36. *Gallibacterium anatis* affect ………………… tract & ………………… tract. – **Upper Respiratory & Lower Reproductive**
37. The another name of Chronic Respiratory Disease (CRD) is …………………………- **Avian Respiratory Mycoplasmosis**
38. CRD id commonly affects Broiler chicken & ……………..
39. **Turkey**
40. Quail
41. Duck
42. Geese
43. In CRD frothy exudates are seen in which organ
44. Respiratory tract
45. Nasal opening
46. **Eyes**
47. All of the above
48. In CRD liver shows
49. **Fibrinous covering**
50. White pin spots
51. Hemorrhages
52. Necrosis
53. Which of the following is vertical transmitted disease
54. ***Mycoplasma gallisepticum***
55. *Haemophillus paragallinarum*
56. *Pasteurella multocida*
57. *All of the above*
58. Synovitis caused by *………*
59. Reovirus
60. Mycoplasma synoviae
61. **Both A & B**
62. None of the above
63. *Mycoplasma synoviae* infection to birds shows ……………faeces
64. Copper
65. Greenish red
66. Yellowish green
67. **Sulphur**
68. *Mycoplasma synoviae* infection to birds shows ……………liver
69. Red
70. **Green**
71. Yellow
72. Bluish necrotic
73. *Mycoplasma iowae* recognized as a infectious pathogen of …………….. bird.- **Turkey**
74. *Pasteurella multocida* causes ……………………… disease.
75. Fowl typhoid
76. **Fowl cholera**
77. Avian tuberculosis
78. None of the above
79. Bluish comb seen in which of the following form
80. Acute, Fowl typhoid
81. Chronic, Fowl cholera
82. **Acute, Fowl cholera**
83. Chronic, Fowl typhoid
84. Oedema of wattle in Fowl cholera seen in which form
85. Acute form
86. **Chronic form**
87. Both of these
88. Only in acute form
89. Pin point like necrotic spots all over the liver parenchyma seen in which disease condition
90. Infectious bursal disease
91. **Mycotoxins**
92. Chicken infectious anemia
93. Fowl cholera
94. (i) Four factors are possibly associated with virulence of Pasteurella.

 (ii) They are: fimbriae, polysaccharide, endotoxins, exotoxins

1. Both statements (i) and (ii) are true
2. **Only statement (i) is true**
3. Only statement (ii) is true
4. Both statements (i) and (ii) are false
5. Which system of batch rearing is suitable for avoiding any disease outbreak to new flock
6. **All in all out**
7. Hatch+ grower system
8. Hatch + grower + layer system
9. None of the above
10. Which group of salmonella includes serotype that infect animal species only-
11. First group
12. **Second group**
13. Third group
14. Fourth group
15. In India *Salmonella bareilly* isolated from which species
16. Chicken
17. Turkey
18. Guinea fowl
19. **Quail**
20. Which of the following is salmonella isolate from the chicken
21. *S. stanley*
22. *S. gallinarum*
23. *S. simbury*
24. **All of the above**
25. Hens that survived from salmonella outbreak may isolate *salmonella enteritidis* from …………..part of body.
26. Lungs
27. **Ovary**
28. Liver
29. GI tract
30. The symptoms of paratyphoid are very similar to which of the following disease
31. Pullorum disease
32. Fowl typhoid
33. CRD
34. **Both a & b**
35. Which polysaccharide used to reduce salmonella colonisation in chicks intestine
36. **Lactose & mannose**
37. Galactose & lactose
38. Sucrose & glucose
39. Fructose & sucrose
40. (i) Pullorum disease seen in newly hatched chicks because of horizontal transmission.

(ii) Pullorum disease caused by fecal contamination in newly hatched chicks.

1. Statement (i) and (ii) correct
2. Statement (i) is wrong but (ii) is correct
3. **Statement (i) and (ii) wrong**
4. Statement (i) is correct but (ii) is wrong
5. “Bacillary white diarrhea” is the old name of disease which caused by ……….. organism.
6. ***Salmonella pullorum***
7. *Salmonella gallinarum*
8. *Gallibacterium anitis*
9. *Avibacterium paragallinarum*
10. Russel bodies are found in which disease in poultry
11. Infectious coryza
12. Chronic respiratory disease
13. Chiken infectious anemia
14. **Pullorum disease**
15. *S. pullorum* and *S. gallinarum* can be differentiated by which of the following test
16. Whole blood agglutination test
17. **Sugar fermentation test**
18. Both of the above
19. None of the above
20. Symptom of the Fowl typhoid shows which colour of diarrhea.
21. White diarrhea
22. Green diarrhea
23. **Yellow diarrhea**
24. Black diarrhea
25. Bluish (cyanosed) comb and wattle seen in which of the following disease
26. Aspergillosis
27. Chicken infectious anemia
28. **Fowl typhoid**
29. IB
30. Copper colored liver seen in which of the following organisms infection
31. *Salmonella pullorum*
32. ***Salmonella gallinarum***
33. *Gallibacterium anitis*
34. *Avibacterium paragallinarum*
35. Yolk sac disease is known as
36. Peritonitis
37. Airsacculitis
38. **Omphilitis**
39. None of the above
40. Arthritis (bumble foot disease) cause by which organism
41. *Escherichia coli*
42. ***Escherichia venezuelensis***
43. Both
44. None of the above
45. Ulcerative enteritis in quail caused by
46. Quail disease
47. *Clostridium colinum* infection
48. *Clostridium perfringen type A*
49. **All of the above**
50. Necrotic enteritis caused by ……..
51. *Clostridium colinum* infection
52. *Clostridium perfringen type A*
53. ***Clostridium perfringen type A & C***
54. *Clostridium perfringen type A, C, E & F*
55. Limberneck disease is the type of ………………
56. **Toxicity**
57. Infection
58. Both
59. None
60. (i) Hjarre’s disease is also known as coligrnuloma

(ii) *E.coli* causes hjarre’s disease

(iii) Hjarre’s disease shows nodules in lungs

(iv) This Hjarre’s disease particularly seen in chicks

1. Only (i) is true
2. (i), (ii) are true
3. **(i), (ii), (iii) are true**
4. All are true
5. Botulism (limberneck) caused by toxin of which type of *clostridium*
6. Cl. clostridium type A
7. Cl. clostridium type B
8. **Cl. clostridium type C**
9. Cl. clostridium type D
10. Neoplastic diseases are …………. In origin
11. Endodermal
12. **Mesodermal**
13. Ectodermal
14. All of the above
15. Mareck’s disease also known as …
16. Reticuloendotheliosis
17. **Visceral leucosis**
18. Meningocephilitis
19. Visceral sarcoma
20. Visceral leucosis is caused by herpes ……….. DNA virus of which serotype ……. is pathogenic.
21. Group A, 1
22. **Group B, 1**
23. Group A, 2
24. Group B, 2
25. In which viral disease “sportsman’s posture” is seen
26. Infectious bronchitis
27. Newcastel disease
28. **Mareck’s disease**
29. Avian encephalomyletis
30. In the Infectious bronchitis which species get infected
31. **Chicken**
32. Chicken, Quail
33. Chicken, Quail, Turkey
34. Chicken, Quail, Turkey, G. fowl
35. During IB infection in adults which part of ovary get infected most
36. Magnum only
37. Isthumus only
38. Infundibulum & Magnum
39. **Magnum & Isthmus**
40. In newcastle disease most acute form is known as
41. Beach’s form
42. Hitchner’s form
43. Beaudette’s form
44. **Doyle’s form**
45. Picorna virus causes which of the following is disease
46. Newcastle disease
47. Mareck’s disease
48. **Avian encephalomyelitis**
49. Infectious bronchitis
50. Ulcer in the intestine in Newcastle disease is seen …….
51. Beach’s form
52. Hitchner’s form
53. Beaudette’s form
54. **Doyle’s form**
55. Avian influenza virus which type is highly pathogenic
56. **H5N1**
57. H5N7
58. H7N1
59. H1N7
60. Osteopetrosis condition in chicken seen due to …..
61. High phosphorous in diet
62. Avian influenza
63. **Both A & B**
64. None of the above
65. Which of the antigen type in fowl plague give cell associated precipitation test
66. Type A
67. Type A & C
68. **Type B & C**
69. Type A & B
70. Synonym of Gumboro disease is
71. Infectious bronchitis
72. Mareck’s disease
73. Ranikhet disease
74. **Infectious bursal disease**
75. Wet pox of chicken is known as
76. Ocular form
77. **Diphtheritic form**
78. Cutaneous form
79. All of the above
80. Borrel and Bollinger’s bodies are found in which disease condition
81. **Fowl pox**
82. Infectious coryza
83. Infectious bronchitis
84. Fowl plague
85. Blue wing disease is the synonym of
86. Avian leukosis
87. **Infectious anemia syndrome**
88. Mareck’s disease
89. Ranikhet disease
90. Most characteristic lesions of chicken infectious anemia are
91. Traumatic necrosis & bursal atrophy
92. **Thymic atrophy & bone marrow atrophy**
93. Necrotic ulcer and traumatic atrophy
94. All of the above
95. EDS-76 first reported in which country
96. U.S.A
97. India
98. Germany
99. **Netherland**
100. (i) Egg drop syndrome – 76 is caused in adult laying birds. (ii) Egg drop syndrome is caused due to the avian adenovirus belonging to group ll.
101. Above Both statements are true
102. Above Both statements are wrong
103. **Only statement (i) of the above is true**
104. Only statement (ii) of the above is true
105. (i)Endemic form of EDS-76 originates from classical form. (ii) classical for of EDS -76 infect breeder by vertically transmission.
106. **Both statements are true**
107. Both statements are wrong
108. Only statement (i) is true
109. Only statement (ii) is true
110. *Aspergillus fumigatus* produce toxin which is
111. Hemotoxic
112. Neurotoxic
113. Histotoxic
114. **All of the above**
115. Mycotoxin tolerance level
116. **Chicken > Turkey > Duck**
117. Chicken > Duck > Turkey
118. Turkey > Chicken > Duck
119. Turkey > Duck > Chicken
120. Crop necrosis is caused by
121. *Trichophyton gallinae*
122. *Aspergillus flavus*
123. *Aspergillus fumigatus*
124. ***Candida albicans***
125. Runting syndrome known as
126. Pasty vent disease
127. Tenosynovitis
128. Cloacal pasty
129. **Helicopter disease**
130. Penguin like movement in birds seen in which infection
131. ***Prosthogonimus ovatus***
132. *Rallietina tetragona*
133. *Heterakis gallinarum*
134. *Cotugnia dignophora*
135. Lagest tapeworm of poultry
136. *Davainea proglotina*
137. ***Rallietina tetragona***
138. *Rallietina echinobothrida*
139. *Cotugnia dignophora*
140. Most pathogenic tapeworm of poultry
141. ***Davainea proglotina***
142. *Rallietina tetragona*
143. *Rallietina echinobothrida*
144. *Cotugnia dignophora*
145. Nodular tapeworm of poultry
146. *Davainea proglotina*
147. *Rallietina tetragona*
148. ***Rallietina echinobothrida***
149. *Cotugnia dignophora*
150. Match the following

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| --- | --- |
| Poultry parasite | Specifications in poultry |
| 1. *Heterakis gallinarum*
2. *Ascaridia galli*
3. *Oxyspirura mansoni*
4. *Cotugnia dignophora*
 | 1. Nodular tapeworm
2. Largest nematode
3. Double poured tape worm
4. Eye worm
5. Caecal tapeworm
 |

Answer:

1. a-1, b-2, c-3, d-4
2. a-5, b-1, c-4, d-3
3. a-1, b-5, c-3, d-4
4. **a-5, b-2, c-4, d-3**
5. Eimeria tenella is protozoan found only in
6. Intestine
7. Rectum
8. **Caecal**
9. none
10. match the following

|  |  |
| --- | --- |
| 1. Eimeria tenella
2. Eimeria necatrix
3. Eimeria brunetti
 | 1. Caecal coccidia
2. Intestinal coccidia
3. Rectal coccidia
 |

Answer :

1. **a-1, b-2, c-3**
2. a-2, b-3, c-1
3. a-2, b-1, c-3
4. a-1, b-3, c-2
5. Black head disease caused by …………………. Protozoan
6. **Histomonas meleagridis**
7. Hexamita meagridis
8. Plasmodium gallinarum
9. Plasmodium juxtanucleare
10. Sulphur color feces found in which of the following disease
11. Fowl typhoid
12. Pullorum disease
13. Necrotic enteritis
14. **Histomoniasis**
15. Match the following

|  |  |
| --- | --- |
| 1. Aspergillosis
2. Favus
3. Candidiasis
4. Aflatoxicosis
 | 1. White comb disease
2. Sour crop
3. Brooder pneumonia
4. Young duck
 |

Answer:

1. a-1, b-2, c-3, d-4
2. **a-3, b-1, c-2, d-4**
3. a-3, b-2, c-4, d-1
4. a-2, b-1, c-3, d-4
5. What is another name for Infectious Bursal Disease (IBD)?

(a) Avian Influenza

**(b) Gumboro Disease**

(c) Infectious Laryngotracheitis

(d) Hydropericardium Syndrome

1. When did the first outbreak of Infectious Bursal Disease occur in the USA?

(a) 1950

**(b) 1962**

(c) 1971

(d) 1980

1. Which family does the IBD virus belong to?

 (a) Paramyxoviridae

 (b) Adenoviridae

 **(c) Birnaviridae**

 (d) Coronaviridae

1. At what age are birds most susceptible to Infectious Bursal Disease?

 (a) 1-2 weeks

 **(b) 3-6 weeks**

 (c) 7-10 weeks

 (d) 11-14 weeks

1. How does Infectious Bursal Disease primarily spread among birds?

 (a) Direct contact

 (b) Ingestion of contaminated feed and water

 (c) Airborne transmission

 **(d) All of the above**

1. Which organ is primarily affected by Infectious Bursal Disease, leading to immunosuppression?

(a) Liver

(b) Spleen

(c) Kidneys

(**d) Bursa of Fabricious**

1. What is a characteristic symptom of the clinical form of Infectious Bursal Disease?

**(a) Watery diarrhea**

(b) Swollen liver

(c) Sneezing and coughing

(d) Enlarged spleen

1. Which disease is characterized by anemia, necrotic and hemorrhagic lesions in the liver, and hemorrhages in muscles?

(a) Infectious Bronchitis

(b) Hydropericardium Syndrome

**(c) Inclusion Body Hepatitis**

(d) Infectious Laryngotracheitis

1. What is the causative agent of Hydropericardium Syndrome?

(a) Coronavirus

(**b) Adenovirus**

(c) Birna virus

(d) Herpesvirus

1. In which season is Infectious Bronchitis more prevalent?

(a) Spring

(b) Summer

**(c) Winter**

(d) Fall

1. What is the main characteristic of Infectious Bronchitis (IB)?

 (a) Neurological symptoms

 (b) Digestive disorders

 **(c) Respiratory distress**

 (d) Feather abnormalities

1. Which type of virus causes Infectious Bronchitis?

 (a) DNA virus

 (**b) RNA virus**

 (c) Retrovirus

 (d) Adenovirus

1. How does the Infectious Bronchitis virus primarily spread among birds?

(a) Ingestion of contaminated feed

(b) Direct contact

(**c) Airborne transmission**

(d) Vector-borne transmission

1. What is the age group affected by Infectious Laryngotracheitis (ILT)?

(a) Chicks below 3 weeks

  **(b) Growers, especially 10 weeks old**

 (c) Adult birds

 (d) All age groups equally

1. How is ILT primarily transmitted among birds?

 (a) Ingestion

 **(b) Airborne transmission**

 (c) Direct contact

 (d) Vector-borne transmission

1. What is a common symptom of ILT in chicks below 3 weeks?

 (a) Respiratory distress

 **(b) Conjunctivitis**

 (c) Watery diarrhea

 (d) Feather abnormalities

1. Which virus causes Hydropericardium Syndrome?

 (a) Coronavirus

 **(b) Adenovirus**

 (c) Birnavirus

 (d) Herpesvirus

1. What is a characteristic symptom of Hydropericardium Syndrome?

 (a) Respiratory distress

**(b) Enlargement of abdomen**

(c) Conjunctivitis

(d) Feather abnormalities

1. In Infectious Bronchitis, what part of the reproductive system is affected, leading to drop in egg production?

  **(a) Ovary**

 (b) Magnum

 (c) Isthmus

 (d) Uterus

1. Which disease is characterized by blood-tinged nasal discharge and haemorrhage in the trachea?

 (a) Infectious Bursal Disease

 (b) Hydropericardium Syndrome

 (c) Inclusion Body Hepatitis

 **(d) Infectious Laryngotracheitis**

1. Which form of Infectious Bursal Disease is characterized by no clinical signs but rapid destruction of lymphocytes?

(a) Acute form

(b) Chronic form

**(c) Subclinical immunosuppressive form**

(d) Hemorrhagic form

1. What is the primary route of infection for Infectious Bursal Disease?

(a) Inhalation

**(b) Ingestion**

(c) Direct contact

(d) Vector-borne transmission

1. In which organ does the Infectious Bursal Disease virus replicate, leading to immunosuppression?

(a) Liver

(b) Kidney

(c) Spleen

**(d) Bursa of Fabricious**

1. 24. What is a characteristic symptom of the clinical form of Infectious Bursal Disease in birds aged 6-7 weeks?

(a) Whitish watery diarrhea

(b) Trembling of head and neck

**(c) Mortality of 60-90%**

(d) Dehydration

1. Which disease is characterized by the deposition of urates in the kidneys and ureter, along with hemorrhagic myositis?

(a) Infectious Bronchitis

**(b) Inclusion Body Hepatitis**

(c) Hydropericardium Syndrome

(d) Infectious Laryngotracheitis

1. In Inclusion Body Hepatitis, what is the microscopic feature seen in the liver?

(a) Lymphocytolysis

(b) Necrosis with pyknosis

**(c) Intranuclear eosinophilic inclusions**

(d) Accumulation of RBCs in interfollicular stroma

1. What is a synonym for Hydropericardium Syndrome?

**(a) Leechidisease**

(b) Angara Disease

(c) Gumboro Disease

(d) Anemia syndrome

1. Which virus causes Hydropericardium Syndrome?

(a) Coronavirus

**(b) Adenovirus**

(c) Birnavirus

(d) Herpesvirus

1. What is the primary characteristic lesion in Hydropericardium Syndrome?

(a) Enlarged liver

**(b) Accumulation of clear, watery fluid in the pericardial sac**

(c) Necrotic foci in the kidneys

(d) Caseous exudates in the trachea

1. Which form of Infectious Bronchitis affects the respiratory system and is characterized by respiratory distress?

(a) Enteropathogenic form

(b) Nephropathic form

**(c) Respiratory form**

(d) Reproductive form

1. Assertion: Fowlpox primarily spreads through intact skin, requiring a break for the virus to enter epithelial cells.

Reason: Aerosol spread is a major route, with droplets containing the virus leading to cutaneous and respiratory infections.

(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.

**(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.**

(c) Assertion is true, but the reason is false.

(d) Assertion is false.

1. Assertion: Chicken Infectious Anemia primarily affects breeders, leading to immunosuppression.

Reason: The virus responsible for Chicken Infectious Anemia replicates mainly in the skin and mucous membranes.

(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.

(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

**(c) Assertion is true, but the reason is false.**

(d) Assertion is false.

1. Assertion: Fowlpox is caused by a DNA virus belonging to the Poxviridae family.

Reason: Fowlpox primarily affects chickens, but different types of poxviruses can infect other birds like canaries and pigeons.

**(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

(c) Assertion is true, but the reason is false.

(d) Assertion is false.

1. Assertion: Chicken Infectious Anemia is also known as Blue Wing Disease.

Reason: The virus causing Chicken Infectious Anemia is enveloped.

(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.

(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

**(c) Assertion is true, but the reason is false.**

(d) Assertion is false.

1. Assertion: Fowlpox can be transmitted through bloodsucking insects, particularly mosquitoes.

Reason: Male and birds with larger combs are more severely affected as they provide more surface area for mosquitoes to bite.

**(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

(c) Assertion is true, but the reason is false.

(d) Assertion is false.

1. Assertion: Avian Encephalomalacia, also known as Crazy Chick Disease, is characterized by muscular weakness, coordination issues, and, ultimately, paralysis.

Reason: This condition is caused by hypovitaminosis D, resulting in hemorrhages and necrosis in the cerebellum and medulla oblongata.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Fattyliver Syndrome in poultry is often associated with high-energy diets, low fat content, and deficiency of lipotropic agents like choline.

Reason: The syndrome results in an enlarged, yellowish, and friable liver with ruptures, and microscopically, there are changes in hepatic cells with lymphocytic infiltration.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Gout in poultry is the deposition of crystals of uric acid and urates in various organs, particularly the kidneys and joints.

Reason: Visceral gout is mainly caused by the accumulation of uric acid in the blood (hyperuricemia) due to kidney damage, leading to deposition in organs.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Vitamin A deficiency in poultry can lead to squamous metaplasia, causing small white pustules in the nasal passage, mouth, and pharynx.

Reason: Vitamin A is essential for the normal development of the mucous epithelium of the pharynx and esophagus.

**(a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

(b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

(c) Assertion is true, but the reason is false.

(d) Assertion is false.

1. Assertion: Hypovitaminosis E in poultry can lead to conditions such as Avian Encephalomalacia and Nutritional Muscular Dystrophy.

Reason: Vitamin E has antioxidant properties that prevent the oxidation of unsaturated lipids within cells.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Hypovitaminosis K in poultry can result in increased blood clotting time, blood-tinged droppings, and hemorrhages in breast and thigh muscles.

Reason: Vitamin K is essential for the synthesis of clotting factors, and its deficiency can lead to impaired blood clotting.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Thiamin (Vitamin B1) deficiency in poultry can lead to stargazing or opisthotonus, characterized by the paralysis of extensor muscles of the neck and legs.

Reason: Thiamin plays a crucial role in carbohydrate metabolism and the functioning of nerves.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Assertion: Niacin (Nicotinic Acid) deficiency in growing birds can result in hock joint enlargement, outward bending of legs (perosis), diarrhea, stomatitis, and improper feather development.

Reason: Niacin is an essential component of NAD, DPN, and NADH, which are important for carbohydrate, lipid, and protein metabolism.

**a) Both assertion and reason are true, and the reason is the correct explanation of the assertion.**

b) Both assertion and reason are true, but the reason is not the correct explanation of the assertion.

c) Assertion is true, but the reason is false.

d) Assertion is false.

1. Hypovitaminosis A can lead to the condition known as squamous metaplasia. What is the primary consequence of this condition?\*\*

(a) Enlarged hock joints

(b) Accumulation of blood spots in eggs

**(c) Development of small white pustules or vesicles**

(d) Soft and deformed legs in growing birds

1. What is the characteristic symptom of Xeropthalmia, a consequence of hypovitaminosis A?\*\*

(a) Enlarged hock joints

**(b) Dryness of eyes and accumulation of white inflammatory materials**

(c) Night blindness

(d) Blood-tinged droppings

1. Nutritional Muscular Dystrophy (Myopathy) is associated with the deficiency of which vitamin?\*\*

(a) Vitamin D

**(b) Vitamin E**

(c) Vitamin K

(d) Thiamin (Vitamin B1)

1. What is the primary function of Vitamin K in poultry?\*\*

(a) Prevents oxidation of unsaturated lipids

(b) Plays a role in carbohydrate metabolism

**(c) Essential for the synthesis of clotting factors**

(d) Involved in nerve functioning

1. Stargazing or opisthotonus is a symptom associated with the deficiency of which vitamin?\*\*

(a) Vitamin A

(b) Vitamin D

**(c) Thiamin (Vitamin B1)**

(d) Niacin (Nicotinic Acid)

1. Riboflavin (Vitamin B2) deficiency affects the nerves and embryo. What is the characteristic symptom described as curled toe paralysis?\*\*

 **a) Inward curling of toes and sitting on hocks**

 b) Leg weakness and unsteady gait

 c) Tremors, paralysis, and convulsions

 d) Nodular hyperplasia and cracks at footpad

1. Which vitamin deficiency is associated with hock joint enlargement and outward bending of legs (perosis)?\*\*

 a) Vitamin A

 b) Vitamin D

 **c) Niacin (Nicotinic Acid)**

 d) Pantothenic Acid

1. What is the role of Pantothenic Acid in poultry?\*\*

 a) Essential for the synthesis of clotting factors

 **b) Important for the metabolism of carbohydrates, proteins, and lipids**

 c) Involved in nerve functioning

 d) Prevents oxidation of unsaturated lipids

1. Encephalomalacia, also called Crazy Chick Disease, is associated with the deficiency of which vitamin?\*\*

 a) Vitamin D

 **b) Vitamin E**

 c) Vitamin K

 d) Vitamin B12

1. What is the primary consequence of hypovitaminosis K in poultry?\*\*

 a) Night blindness

 **b) Increased blood clotting time**

 c) Dryness of eyes and accumulation of white materials

 d) Soft and deformed legs in growing birds

1. What is the characteristic symptom of Avian Encephalomalacia, also known as Crazy Chick Disease?

a) Soft and deformed legs in growing birds

**b) Muscular weakness, incoordination, and paralysis**

c) Dryness of eyes and accumulation of white inflammatory materials

d) Enlarged hock joints

1. What vitamin deficiency leads to the condition known as Exudative Diathesis, characterized by edema in subcutaneous tissue?

a) Vitamin A

b) Vitamin D

**c) Vitamin E**

d) Vitamin K

1. Polyneuritis is a symptom associated with the deficiency of which vitamin?

a) Vitamin B1 (Thiamin)

b) Vitamin B2 (Riboflavin)

c) Niacin (Nicotinic Acid)

**d) Vitamin B6 (Pyridoxine)**

1. What is a consequence of Niacin/Nicotinic Acid deficiency in growing birds?

**a) Enlarged hock joints**

b) Gout

c) Weakness and paralysis of legs

d) Curled toe paralysis

1. Pantothenic Acid deficiency is associated with nodular hyperplasia and cracks at which locations?

**a) Footpad and joint of claws**

b) Mouth and PV (Proventriculus)

c) Neck and back region

d) Gizzard and thigh muscle

1. What is the primary consequence of Thiamin (Vitamin B1) deficiency in chicks?

a) Enlarged hock joints

b) Night blindness

**c) Stargazing or opisthotonus**

d) Soft and thin-shelled eggs

1. Which nutrient deficiency is associated with the condition known as Cagelayer Fatigue in mature birds kept in cages?

a) Calcium

**b) Phosphorus**

c) Vitamin D

d) Vitamin E

1. Dermatitis and perosis are symptoms associated with the deficiency of which nutrient?

a) Zinc

b) Copper

**c) Biotin**

d) Choline

1. Fattyliver Syndrome in poultry is primarily caused by a deficiency of which nutrient?

**a) Choline**

b) Biotin

c) Vitamin A

d) Vitamin E

1. Which condition is characterized by the deposition of crystals of uric acid and urates in various organs, including kidneys, heart, and joints?

**a) Gout**

b) Fatty liver Syndrome

c) Exudative Diathesis

d) Cannibalism