

Semester Lecture Plan

Name of College: Government College of Arts, Science & Commerce, Sanquelim Goa

Name of Faculty: : Miss. Ayesha Shetkar

Subject: Zoology

Paper code: ZOO 211 - Vector-borne Diseases

Program/Course: S.Y.BSc

Division: A

Academic year: 2026 - 2027

Semester: III

Total Lectures: 31

Course Objectives: 1. Acquainting with common tropical vector-borne diseases and vector control strategies.

2. Understanding the host-pathogen interaction, transmission, symptoms of vector borne diseases.

3. Introduction of various Insect vectors to the Learners.

4. Develop competencies in responding to vector borne diseases.

Month	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	ICT Tools	Reference books
June	19/06/2026	20/06/2026	0	Nil	--	--	--

July	22/06/2026	27/06/2026	2	1.Introduction to Vectors and Vector-borne diseases (VBDs): Vectors-definition, 2. Types of vectors, Vector-borne diseases,	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Power point presentation/ Videos	Web references: 1. https://www.cdc.gov/nczid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458, 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical Entomology for students. Chapman & Hall, London, 1996.
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	29/06/2026	4/07/2026	2	1. Disease transmission-horizontal and vertical transmission of vectors, 2. Epidemiology of Vector-Borne	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Power point presentation	Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458, 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

						Entomology for students. Chapman & Hall, London, 1996.
						Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases
				1. Diseases and control Strategies, Emerging and Re-emerging Vector Borne diseases. 2. Insects as Vectors: Features of insect orders (having vectors) – Diptera, Siphonoptera,	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical
	6/07/2026	11/07/2026	2			Power point presentation/ Videos

						Entomology for students. Chapman & Hall, London, 1996.
						Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases
				1. Siphunculata and Hemiptera. 2. Salient features of Dipteran vectors – Mosquitoes, Sand fly and Housefly	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical
	13/07/2026	18/07/2026	2			

							Entomology for students. Chapman & Hall, London, 1996.
							Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

							Entomology for students. Chapman & Hall, London, 1996.
August	27/07/2026	01/08/2026	2	1. Sandfly-borne diseases – Leishmaniasis-causative agent, it’s lifecycle and symptoms. 2. Housefly transferred diseases- Shigellosis, Diarrhoea,	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Power point presentation	Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

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							Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases
					1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.		1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical
	17/08/2026	22/08/2026	2	1.Plague causative agent, it's lifecycle and symptoms. 2.Control of Fleas. .		Power point presentation/ Videos	

							Entomology for students. Chapman & Hall, London, 1996.
							Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

							Entomology for students. Chapman & Hall, London, 1996.
September	31/08/2026	5/09/2026	2	1.Human body louse disease: Epidemic typhus causative agent, it's lifecycle and symptoms 2.Control of human louse	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Power point presentation	Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

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						Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases
				1.Triatomine Bugs transferred diseases: Chagas disease-causative agent, it's lifecycle and symptoms 2.Bed bugs as mechanical vectors, Control, and preventive measures.	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458 , 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical
	21/09/2026	26/9/2026	2			Power point presentation

							Entomology for students. Chapman & Hall, London, 1996.
October	28/9/2026	3/10/2026	2	1. Other Arthropod vectors: Ixodid ticks as vectors 2. Ixodid ticks' disease- Lyme disease: causative agent, its lifecycle and symptoms.	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Power point presentation/ Videos	Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458, 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

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	5/10/2026	10/10/2026	2	1. Ixodid ticks' disease- Lyme disease: causative agent, it's lifecycle and symptoms 2. Preventive measures of ticks.		Power point presentation

						Entomology for students. Chapman & Hall, London, 1996.
	12/10/2026	14/10/2026	1	1.Revision on module I	1. List the various major vector-borne diseases. 2. Describe the symptoms of the major vector-borne diseases and control measures of the vectors. 3. Choose effective responses against vector borne diseases. 4. Assess the severity of vector borne disease outbreaks.	Web references: 1. https://www.cdc.gov/ncezid/dvbd 2. https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases 1. C.K. Paniker, Textbook of Medical Parasitology. New Delhi: Jaypee Brothers medical Publishers (P) ltd., 2007. 2. D. Despommier, D. Griffin, R. Gwadz, P. Hotez and C. Knirsch, C. Parasitic Diseases. (6th Ed). New York: Parasites without borders, 2017. 46 3. D.J. Gubler, The Global Threat of Emergent/Re-emergent Vector Borne Diseases. Vector Biology, Ecology and Control, 39–62. https://doi.org/10.1007/978-90-481-2458, 2010. 4. G. Mullen and L. Durden, Medical and Veterinary entomology, Academic press, London, 2009. 5. L. Roberts and J. Janovy, Gerald D Schmidt & Larry S Roberts' Foundations of Parasitology. New York: The McGraw hill Companies, 2009. 6. M.W. Service Medical

						Entomology for students. Chapman & Hall, London, 1996.
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