

**2017 Virginia FFA Dairy Cattle Evaluation and Management Career Development Event
Written Exam**

Name: _____ FFA Chapter: _____

Instructions: Record your answers in the "Written Exam" section on the back of your Scantron form. Select the single best answer for each question. Each question is worth 3 points. Total points possible = 150. The time limit is 30 minutes.

1 How many points are assigned to "Dairy Strength" on the PDCA Dairy Cow Unified Scorecard?

- A. 10
- B. 15
- C. 20
- D. 25**
- E. 40

2 What is the range of final classification scores that would result in a Holstein cow being classified as "Very Good"?

- A. 65-74
- B. 75-79
- C. 80-84
- D. 85-89**
- E. 90-97

3 What cost accounts for 55 to 60 percent of the total cost of raising dairy replacement heifers?

- A. Feed**
- B. Insurance
- C. Labor
- D. Veterinary
- E. None of the above

4 If colostrum is pasteurized, what time and temperature are recommended?

- A. 120°F for 2 hours
- B. 140°F for 60 minutes**
- C. 145°F for 30 minutes
- D. 161°F for 15 seconds
- E. 180°F for 2 seconds

5 How long may colostrum be safely stored when frozen?

- A. 1 day
- B. 1 week
- C. 1 month
- D. 3 months
- E. **1 year**

6 _____ amino acids are produced by the cow and do not have to be provided in the diet.

- A. Essential
- B. Fat-soluble
- C. Nonessential**
- D. Trace
- E. Water-soluble

7 Macrominerals are generally required in relatively large quantities. Requirements are usually stated using what unit of measurement?

- A. International units
- B. Ounces
- C. Parts per billion
- D. Parts per million
- E. **Percent of ration dry matter**

8 Which of the following is an example of a legume used in dairy cattle rations?

- A. Alfalfa**
- B. Barley
- C. Corn
- D. Timothy
- E. Wheat

9 What is the most desirable acid produced during ensiling?

- A. Acetic acid
- B. Ascorbic acid
- C. Butyric acid
- D. Lactic acid**
- E. Propionic acid

10 Kernel processing of corn silage increases _____ digestibility.

- A. Cellulose
 - B. Fat
 - C. Hemicellulose
 - D. Protein
 - E. **Starch**
-

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11 Which of the following is not considered a by-product feedstuff?

- A. Barley grain
- B. Cottonseed hulls
- C. Distillers grains
- D. Wheat middlings
- E. Whole cottonseed

12 What part of the milking system prevents the vacuum level from exceeding a prescribed level?

- A. Agitator
- B. Pulsator
- C. Sanitary trap
- D. Vacuum gauge
- E. Vacuum regulator

13 What type of mastitis has no detectable change in the udder itself and no observable abnormality of the milk?

- A. Acute
- B. Chronic
- C. Clinical
- D. Coliform
- E. Subclinical

14 What hormone can interfere with milk ejection when a cow becomes frightened or upset?

- A. Adrenaline
- B. Estrogen
- C. Oxytocin
- D. Progesterone
- E. Testosterone

15 What is the recommended temperature of water for washing the bulk tank, lines, and other equipment?

- A. 140°F
- B. 160°F
- C. 180°F
- D. 200°F
- E. 220°F

16 Which of the following is a solution commonly used as a teat dip?

- A. Bronopol
- B. Chlorine
- C. Iodine
- D. All of the above
- E. None of the above

17 Which of the following accounts for 64 percent of mastitis-related costs?

- A. Discarded milk
- B. Drugs
- C. Early cow replacement
- D. Labor
- E. Reduced milk production

18 On conventional dairy farms, why is it recommended to treat every quarter of every cow at drying off?

- A. Antibiotics remain in the udder longer than during lactation.
- B. Dry cow products contain a higher concentration of antibiotics than lactating products.
- C. There is no discarding of saleable milk.
- D. Treatment prevents new infections.
- E. All of the above

19 What state is ranked first for number of cows per herd?

- A. California
- B. New Mexico
- C. New York
- D. Pennsylvania
- E. Wisconsin

20 On average, how many days are there between heat periods in dairy cows?

- A. 7
 - B. 14
 - C. 21
 - D. 28
 - E. 35
-

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21 What is the most reliable sign of estrus in dairy cows?

- A. Bellowing
- B. Following and smelling another cow
- C. Mounting other cows
- D. Restlessness
- E. **Standing to be mounted**

22 _____ is the percent of cows that become pregnant out of those cows eligible to become pregnant in a given period of time, usually 21 days.

- A. Conception rate
- B. Days open
- C. Days to first service
- D. Percent heats observed
- E. **Pregnancy rate**

23 During what season is incidence of retained placentas generally highest?

- A. Winter
- B. Spring
- C. **Summer**
- D. Fall
- E. None – there is no difference between seasons

24 What hormone released prior to calving enables the cervix to soften and stretch in preparation for expelling the calf?

- A. Cortisol
- B. Epinephrine
- C. Estrogen
- D. Oxytocin
- E. **Relaxin**

25 _____ is the time period after calving when the dairy producer chooses not to breed a cow.

- A. Calving interval
 - B. Days open
 - C. Days to first service
 - D. Heat interval
 - E. **Voluntary waiting period**
-

26 How can ultrasound be used in a reproductive management program?

- A. Determine if twins are being carried
- B. Determine sex of an embryo
- C. Pregnancy determination
- D. **All of the above**
- E. None of the above

27 What percent of heifers born twin to a bull are sterile?

- A. 0%
- B. 40%
- C. 70%
- D. 80%
- E. **90%**

28 The Council on Dairy Cattle Breeding publishes U.S. genetic evaluations. How many times per year are official evaluations released?

- A. 1
- B. 2
- C. **3**
- D. 4
- E. 5

29 The Total Performance Index (TPI) is a genetic index used by what breed?

- A. Ayrshire
- B. Brown Swiss
- C. Guernsey
- D. **Holstein**
- E. Jersey

30 What calving ease score would be assigned if there was a slight problem with calving?

- A. 1
- B. **2**
- C. 3
- D. 4
- E. 5

31 Which of the following is a consequence of inbreeding in dairy cattle?

- A. Decreased production
 - B. Decreased reproductive performance
 - C. Increased calf mortality
 - D. **All of the above**
 - E. None of the above
-

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32 Brachyspina is an undesirable recessive trait in what dairy breed?

- A. Brown Swiss
- B. Guernsey
- C. Holstein**
- D. Jersey
- E. Milking Shorthorn

33 What is the normal temperature of an adult dairy cow?

- A. 95.0°F
- B. 98.6°F
- C. 101.5°F**
- D. 102.5°F
- E. 105.1°F

34 Which of the following is not classified as a metabolic disease?

- A. Brucellosis**
- B. Displaced abomasum
- C. Ketosis
- D. Milk fever
- E. Retained placenta

35 What is the common name for dystocia?

- A. Calving difficulty**
- B. Circling disease
- C. Ketosis
- D. Red nose
- E. Twisted stomach

36 If a dairy farmer gives a magnet to a cow, what disease is he trying to prevent?

- A. Bloat
- B. Displaced abomasum
- C. Hardware disease**
- D. Milk fever
- E. Retained placenta

37 What type of fly spreads pinkeye?

- A. Deer fly
- B. Face fly**
- C. Heel fly
- D. Horn fly
- E. Stable fly

38 Ringworm is a contagious disease caused by a _____.

- A. Bacterium
- B. Fungus**
- C. Parasite
- D. Protozoa
- E. Virus

39 What instrument is used to give an animal a pill?

- A. Balling gun**
- B. Cryoscope
- C. Esophageal feeder
- D. Intravenous tube
- E. Trocar

40 Animal density impacts nutrient management on farms and is usually measured as animal units per acre. How many pounds of live weight make up an animal unit?

- A. 50
- B. 100
- C. 250
- D. 1000**
- E. 2000

For questions 41-50, use the cow information provided for the exam. The last test day was May 15, 2017. The report was generated on June 6, 2017, so assume that today's date is June 6 when answering the questions.

41 Which cow in the herd most recently calved?

- A. 4782
- B. 5159
- C. 5289
- D. 5375
- E. 5440**

42 Why is there no milk weight for 5001 on this test month?

- A. She has been sold.
- B. She has mastitis.
- C. She is dry.**
- D. She recently calved.
- E. One cannot tell from the information provided.

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43 How many cows in the herd are on the “do not breed” list?

- A. 3**
- B. 8
- C. 10
- D. 11
- E. 13

44 What is 5112’s lactation rating?

- A. A
- B. B
- C. C
- D. D
- E. E**

45 Which cow has the highest ERPA for milk?

- A. 4977**
- B. 5010
- C. 5069
- D. 5227
- E. 5351

46 Which cow had the highest fat percent this test month?

- A. 5227
- B. 5234
- C. 5235
- D. 5240**
- E. 5289

47 Which cow has produced the most milk during her lactation to date?

- A. 5001
- B. 5010**
- C. 5039
- D. 5207
- E. 5351

48 How many cows in the herd are currently dry?

- A. 4
- B. 5
- C. 6**
- D. 7
- E. 8

49 Which sire has the most daughters in the herd?

- A. Charnesa**
 - B. Dazzler
 - C. Legal
 - D. Madden
 - E. Topeka
-

50 When is 5207 due to calve?

- A. January 11
 - B. July 13
 - C. August 18**
 - D. September 5
 - E. November 11
-

2017 Virginia FFA Dairy Cattle Evaluation Management CDE

Written Exam: Cow Information for Questions 41-50

Index	Breed	Sire ID	Status		Lact No.	Age (mo.)	DIM	Test month				Prev. SCS	Lactation to Date					ME Milk	ERPA Milk	No. Breedings	Repro Code	Last Bred	Date Due	Days Dry	Days Open		
			Code	Date				Milk	Fat%	Pro%	SCS		Milk	Fat%	Pro%	Fat	Pro									Rating	
4644	JE	GANNON	2	04/03/17	6	90	43	86.8	4.2	3.3	4.6	4.4	2900	4.5	3.6	130	103	C	19938	-667					70	65	
4762	JE	RESTORE	2	12/07/16	5	78	160	80.7	3.6	3.2	5.1	4.7	12286	3.9	3.3	475	402	D	20613	-229	4		05/26/17	03/01	76	170	
4782	JE	FANTOM	2	04/21/17	6	81	25	59.9	4.7	3.6	6.6		1277	5.2	4.1	66	52			-2791					68	47	
4813	JE	HEADLINE	2	09/12/16	5	71	246	65.5	3.7	3.3	3.9	4.0	17367	4.1	3.3	708	569	C	22600	-1246		C			98	268	
4839	JE	LOUIE	2	10/19/16	5	69	209	56.6	3.2	3.4	5.6	2.7	15248	3.8	3.3	586	503	D	20898	1070	1	P	12/30/16	10/05	61	72	
4842	JE	JACE	2	11/21/16	5	70	176	83.1	4.3	3.3	4.2	3.9	17374	4.9	3.2	849	562	A	26280	962	4		05/19/17	02/22	60	179	
4909	JE	VOLUME	2	08/27/16	4	62	262	62.1	5.7	3.3	1.2	1.9	18381	4.7	3.1	865	579	B	22928	-1411		C			65	284	
4977	JE	HEADLINE	2	01/10/17	4	58	126	103.0	3.6	3.4	5.0	4.5	11674	4	3.3	466	390	B	24830	3893	1	P	03/24/17	12/28	76	73	
5001	JE	HENDRIX	3	03/24/17	3	47	355						23353	4.7	3.4	1106	786	C	21385	-962	4	P	09/23/16	06/29	68	173	
5010	JE	KANOO	3	03/24/17	3	46	378						27648	4.2	3.5	1168	981	B	24544	2257	3	P	09/10/16	06/16	74	183	
5014	JE	VERMEER	2	02/28/17	4	57	77	78.7	4.5	3.4	0.1	4.7	5733	5.1	3.6	292	208	C	19733	-1107	1		05/12/17	02/15	64	73	
5019	JE	ZUMA	2	09/26/16	3	51	232	66.6	4.8	3.9	6.0	5.4	18217	4.3	3.6	781	660	A	25354	876		C			58	254	
5033	JE	KANOO	2	11/17/16	3	52	180	77.1	4.6	3.6	3.1	3.0	15311	4.4	3.4	677	527	B	24291	669	4		05/19/17	02/22	73	183	
5039	JE	LEGAL	3	04/15/17	3	45	325						24397	4.7	3.7	1155	907	A	24306	1680	2	P	09/22/16	06/28	52	120	
5069	JE	CHARNESA	2	02/18/17	3	52	87	100.2	4.1	3.4	0.1	0.1	8929	5.2	3.6	468	322	A	25177	2835	1	N	04/28/17		54	109	
5112	JE	CHARNESA	2	01/11/17	3	47	125	54.9	4.4	3.5	4.1	1.8	9219	3.9	3.2	362	297	E	17936	-1440	1	P	03/24/17	12/28	65	72	
5121	JE	CHARNESA	2	01/16/17	3	45	120	56.8	4.8	3.9	4.8	0.1	9330	4.2	3.6	392	338	D	18797	-1723	2	P	04/14/17	01/18	60	88	
5131	JE	PLUS	2	02/16/17	3	46	89	62.8	3.9	3.5	5.6	0.1	5911	4.6	3.3	272	197	D	17879	-807	2		06/01/17	03/07	77	105	
5141	JE	MACHETE	2	02/27/17	3	46	78	85.6	4.2	3.1	3.2	0.7	6475	4.8	3.4	314	223	C	22098	1315	1		05/05/17	02/08	56	67	
5159	JE	CHARNESA	2	04/19/17	3	47	27	102.9	4.2	3.3	1.1		2392	4.6	3.7	111	89			1601					66	49	
5173	JE	MACHETE	2	10/27/16	2	40	201	67.5	3.4	3.5	3.6	3.4	15622	4.5	3.3	702	516	B	25298	-274	3	P	04/23/17	01/27	76	178	
5177	JE	LEGAL	3	02/12/17	2	34	303						18576	4.7	3.3	873	619	C	20864	-943	4	P	10/21/16	07/27	47	189	
5203	JE	WHISPER	3	05/01/17	2	35	273						2.4	17666	4.4	3.8	769	670	B	23427	-904	1	P	10/07/16	07/13	56	67
5207	JE	CHARNESA	2	09/05/16	2	36	253	51.9	4.8	3.5	3.3	1.4	21145	4.2	3.1	889	655	A	29110	1147	1	P	11/11/16	08/17	70	67	
5213	JE	ZAYD	2	10/11/16	2	37	217	55.8	4.7	4.1	4.0	3.7	16906	4.3	3.4	720	581	B	25344	2250	5	P	04/07/17	01/11	60	178	
5227	JE	MADDEN	3	05/20/17	2	34	236	23.0	6.2	4.2	5.1	4.6	12537	5.3	3.8	662	480	D	17501	-3164	1	P	12/02/16	09/07	69	71	
5234	JE	MADDEN	2	10/29/16	2	34	199	53.1	6.3	4.2	4.8	3.6	13629	6.2	3.8	842	523	A	22624	-625	1	P	01/06/17	10/12	54	69	
5235	JE	MADDEN	2	12/04/16	2	36	163	68.1	6.2	4.2	1.9	1.2	12611	5.8	4	729	510	A	22040	-1343	1	P	02/10/17	11/16	73	68	
5240	JE	TOPEKA	2	10/07/16	2	33	221	47.0	6.8	4.2	3.3	4.0	13590	5.6	3.9	767	531	B	20946	-1841	1	P	12/16/16	09/21	69	70	
5245	JE	TOPEKA	2	10/31/16	2	33	197	57.6	3.5	3.4	4.9	4.5	12612	4.4	3.2	560	399	C	22194	-462	6		06/02/17	03/08	61	214	
5289	JE	TOPEKA	2	05/02/17	2	35	14	54.4	5.9	3.8	3.3		608	6.4	4.3	39	26			-1941					55	36	
5292	JE	MADDEN	2	02/07/17	2	32	98	69.6	5.5	3.7	3.5	5.2	7137	4.5	3.5	318	253	B	22049	-484	2		05/21/17	02/24	92	103	
5338	JE	DAZZLER	6	08/30/16	1	23	259	49.4	4.9	3.2	1.7	2.7	14461	4.3	3.3	621	480	C	23245	-915	1	P	11/11/16	08/17		73	
5351	JE	DAZZLER	6	08/27/16	1	22	262	55.1	4.7	3.7	1.9	2.0	18865	4.1	3.5	776	652	A	30224	2698	1	P	11/04/16	08/10		69	
5371	JE	LEGAL	6	09/24/16	1	21	234	59.4	5.3	3.6	2.2	3.0	13658	4.5	3.5	620	473	A	25493	410	1	P	12/02/16	09/07		69	
5375	JE	DAZZLER	6	02/24/17	1	26	81	73.0	5.9	3.2	3.6	2.1	5169	5	3.2	261	163	B	22956	658	1		05/05/17	02/08		70	
5386	JE	DAZZLER	6	03/07/17	1	25	70	68.8	4.0	3.3	2.7	1.7	4514	3.9	3.4	174	154	C	21528	-156	1		05/06/17	02/09		60	
5393	JE	AXIS	6	12/26/16	1	22	141	69.2	4.6	3.5	1.4	0.7	9146	3.9	3.4	359	311	B	23553	491	3		05/04/17	02/07		129	
5408	JE	AXIS	6	02/24/17	1	22	81	59.7	3.9	3.6	1.7	2.0	4075	4.2	3.8	171	153	C	20649	-420	1		05/04/17	02/07		69	
5440	JE	MAGNUM	6	05/13/17	1	23	3																				25

Repro Codes
 C. Do not breed
 N. Open
 P. Diagnosed pregnant

Status Codes
 1. In milk 5. Left herd 8. Aborted
 2. Calved 6. First lactation 9. Induced lact.
 3. Dry 7. Entered herd

Rating Codes
 A. Top Cows D. Marginal Cows
 B. Above Average E. Bottom Cows
 C. Below Average