Test Directions

1. Please fill out the answer form and include all requested information. We are unable to issue a certificate without complete information.
2. All questions and answers are developed from the information provided in the book. Select the *one best answer* and fill in the corresponding circle on the answer form.
3. Mail the answer form to NICU Ink, 1425 N. McDowell Blvd., Ste. 105, CA 94954-6513 with a check for $50 (processing fee) made payable to NICU Ink. This fee is non-refundable.
4. You will be notified of your test results within 6–8 weeks. Please retain the test for your records.
5. An answer key is available upon request with completion of the exam.
6. If you pass the test (80%) you will earn 10 contact hours* for the course (2 hours pharmacology credit).

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Provider, Academy of Neonatal Nursing, approved by the California Board of Registered Nursing, Provider #CEP 6261; and Florida Board of Nursing, Provider #FBN 3218, content code 2505.

*Contact hours based on a 60-minute hour.

National Certification Corporation (NCC) Competency Categories by Specialty and Codes

NCC Code	Total Contact Hours 10
NIC	
General Assessment (1)	4
Pharmacology (3)	2
Physiology & Pathophysiology (2)	4
NNP	
General Management (3)	4
Pharmacology (4)	2
Physiology & Pathophysiology (2)	4

NCC competency categories are provided for your information. The category breakdown is an estimate. The final decision regarding competency categories is at the discretion of NCC.

Before you begin…

This course is subject to periodic review and update. It is reviewed three years after it is published. Please visit Continuing Education at *nicuink.net,* if necessary, for the latest update.

Current course release date: July 1, 2016

Course Objectives

1. Define innate and adaptive immunities.
2. Outline the embryologic development of the immune system.
3. Discuss the role of each component of the immune system in the prevention and response to infection.
4. Outline methods used to detect intrauterine infections.
5. Discuss organisms responsible for intrauterine infections.
6. Identify the characteristics of common bacterial infections.
7. Outline risk factors for neonatal bacterial infections.
8. Outline risk factors for neonatal viral infections.
9. Discuss medications used to treat neonatal early- and late-onset infection.
10. Describe potential contraindications to medications used to treat neonatal infections.

1. Which of the following is an example of an epithet?
   a. epidermidis
   b. Klebsiella
   c. streptococci pneumonia

2. Acid-fast stains are used to identify:
   a. facultative anaerobes
   b. Gram-positive organisms
   c. mycobacterium

3. *Clostridium perfringens* is an example of a/an:
   a. facultative anaerobe
   b. obligate aerobe
   c. obligate anaerobe

4. The most common route of transmission for capsid viruses is:
   a. dust particles
   b. fecal-oral
   c. fomites

5. Cells infected with herpes virus often contain:
   a. Cowdry Type A inclusions
   b. agglutinated cells
   c. owl-eye inclusion bodies

6. Components of innate immunity include:
   a. B cells
   b. cytokines
   c. phagocytes

7. Which of the following cells can act as an antigen-presenting cell?
   a. dendrites
   b. lymphocytes
   c. T cells

8. Which of the following is classified as a granulocyte?
   a. basophil
   b. monocyte
   c. lymphocyte

9. Mast cells play a primary role in:
   a. antigen recognition
   b. hypersensitivity reactions
   c. phagocytosis

10. Which of the following cells destroy virus-infected cells?
    a. cytokines
    b. naïve T cells
    c. natural killer cells

11. Factors which affect the white blood cell count in neonates include maternal:
    a. autoimmune disease
    b. diabetes
    c. hypertension

12. Which of the following conditions results in neutrophilia in a newborn?
    a. maternal SSRI use
    b. meconium aspiration
    c. prolonged rupture of membranes

13. What percentage of infants with bacterial sepsis has thrombocytopenia?
    a. 25–30
    b. 30–35
    c. 35–40

14. In addition to infection, CRP is elevated by:
    a. dehydration
    b. immunizations
    c. total parenteral nutrition

15. How many hours after bacterial exposure do procalcitonin levels begin to rise?
    a. 2
    b. 4
    c. 6

16. Polymerase chain reaction testing is used to detect fetal infections caused by which of the following organisms?
    a. parvovirus
    b. varicella
    c. West Nile virus

17. The risks to the fetus when a woman becomes seropositive for toxoplasmosis in the first trimester of pregnancy include damage to the:
    a. eyes
    b. heart
    c. kidneys

18. In premature infants, long-term problems seen with postnatally-acquired cytomegalovirus (CMV) infection include:
    a. liver damage
    b. motor abnormalities
    c. optic nerve degeneration

19. Infants with suspected CMV infection should be screened for:
    a. adrenal suppression
    b. chorioretinitis
    c. postnatal growth failure

20. Infants with congenital rubella infection will usually be IgM positive for _____ month(s).
    a. 1
    b. 2
    c. 3

21. For infants infected but asymptomatic at birth, the most common time of presentation of congenital syphilis is _____ weeks of life.
    a. 3
    b. 5
    c. 7

22. Skin lesions in congenital syphilis usually occur on what area of the body?
    a. palms
    b. scalp
    c. trunk

23. The lesions in the skin, eye, and mouth form of herpes infection usually present at _____ days of age.
    a. five
    b. seven
    c. ten

24. Which of the following bacteria are capable of crossing the placenta and causing fetal infection?
    a. *E. coli*
    b. Group B Streptococcus (GBS)
    c. Listeria

25. What percentage of infants born to untreated GBS positive women will develop GBS sepsis?
    a. 1–2
    b. 3–5
    c. 8–10

26. The most common manifestation of late-onset GBS infection is:
    a. arthritis
    b. meningitis
    c. pneumonia

27. Conjunctivitis is one of the most common neonatal manifestations of infections caused by:
    a. Enterococcus
    b. Klebsiella
    c. *Staphylococcus aureus*

28. The most common site for colonization with methicillin-resistant *S. aureus* in the neonate is the:
    a. ear
    b. nares
    c. rectum

29. Laboratory findings in infants with infections caused by coagulase-negative Staphylococcus include:
    a. hypercapnia
    b. hyperglycemia
    c. hyponatremia

30. Klebsiella is commonly found in the bloodstream of infants with:
    a. cellulitis
    b. necrotizing enterocolitis
    c. pneumonia

31. Bloody diarrhea is a common finding in infants infected with:
    a. Enterobacter
    b. Proteus
    c. Salmonella

32. The peak period of viral shedding in patients with respiratory syncytial virus (RSV) is _____ days.
    a. 3–8
    b. 9–14
    c. 15–21

33. Widespread influenza epidemics occur as the result of:
    a. antigenic shifts
    b. predominance of influenza C
    c. vaccine shortages

34. In North America the peak period for influenza outbreaks is:
    a. September–December
    b. December–March
    c. March–June

35. The incubation period for varicella is _____ days.
    a. 3–10
    b. 10–21
    c. 21–36

36. Early signs of HIV infection in neonates include:
    a. drug-resistant pneumonia
    b. blueberry muffin rash
    c. hepatosplenomegaly

37. The optimal time to administer hepatitis B immune globulin is within _____ hours of birth.
    a. 12
    b. 18
    c. 24

38. Congenital cutaneous candidiasis presents with what type of lesions?
    a. bullous
    b. oral
    c. palmar

39. Areas of lung necrosis and abscesses are features found in pneumonia caused by:
    a. Klebsiella
    b. Pseudomonas
    c. Staphylococcus

40. The most common causative organisms for neonatal meningitis include:
    a. *Acinetobacter baumannii*
    b. *Listeria monocytogenes*
    c. *S. aureus*

41. The incidence of urinary tract infections in term infants is _____ percent.
    a. 1
    b. 3
    c. 5

42. Symptoms of eye infections caused by Chlamydia typically appear how long after delivery?
    a. 5–10 days
    b. 10 days to 2 weeks
    c. 2–3 weeks

43. Effects of septic shock on the lungs include:
    a. alveolar hypertension
    b. increased pulmonary vascular resistance
    c. left-to-right shunting

44. Cell wall inhibitors are less toxic to human cells because human cell walls lack:
    a. D-alanine
    b. β-lactam
    c. peptidoglycans

45. The most concerning mechanism of drug resistance is that resulting from:
- **a. low antibiotic titers**
- **b. plasmid transfer**
- **c. spontaneous mutation**

46. Which types of drugs are more likely to remain in the bloodstream?
- **a. fat soluble**
- **b. protein-bound**
- **c. tissue-bound**

47. When combined with ampicillin, gentamicin has a synergistic effect against:
- **a. enterococci**
- **b. *Clostridium difficile***
- **c. *Staphylococcus epidermidis***

48. Compared to ticarcillin, piperacillin has better activity against:
- **a. *E. coli***
- **b. Klebsiella**
- **c. Pseudomonas**

49. The use of third-generation cephalosporins is discouraged because of the:
- **a. potential for resistant organisms**
- **b. side effect profile**
- **c. risk of toxicity**

50. Which of the following organisms is considered resistant to carbapenem?
- **a. extended spectrum β-lactamase *E. coli***
- **b. methicillin resistant *S. aureus***
- **c. vancomycin-resistant Enterococcus**

51. Clindamycin has a prolonged half-life in premature infants until _____ weeks of age.
- **a. 2**
- **b. 3**
- **c. 4**

ANSWER FORM: Infection in the Neonate, 2nd Edition

Please completely fill in the circle of the **one best answer** using a dark pen.

Numbered vertically.

1. a. ◯ b. ◯ c. ◯	7. a. ◯ b. ◯ c. ◯	13. a. ◯ b. ◯ c. ◯	19. a. ◯ b. ◯ c. ◯	25. a. ◯ b. ◯ c. ◯	31. a. ◯ b. ◯ c. ◯	37. a. ◯ b. ◯ c. ◯	43. a. ◯ b. ◯ c. ◯	49. a. ◯ b. ◯ c. ◯
2. a. ◯ b. ◯ c. ◯	8. a. ◯ b. ◯ c. ◯	14. a. ◯ b. ◯ c. ◯	20. a. ◯ b. ◯ c. ◯	26. a. ◯ b. ◯ c. ◯	32. a. ◯ b. ◯ c. ◯	38. a. ◯ b. ◯ c. ◯	44. a. ◯ b. ◯ c. ◯	50. a. ◯ b. ◯ c. ◯
3. a. ◯ b. ◯ c. ◯	9. a. ◯ b. ◯ c. ◯	15. a. ◯ b. ◯ c. ◯	21. a. ◯ b. ◯ c. ◯	27. a. ◯ b. ◯ c. ◯	33. a. ◯ b. ◯ c. ◯	39. a. ◯ b. ◯ c. ◯	45. a. ◯ b. ◯ c. ◯	51. a. ◯ b. ◯ c. ◯
4. a. ◯ b. ◯ c. ◯	10. a. ◯ b. ◯ c. ◯	16. a. ◯ b. ◯ c. ◯	22. a. ◯ b. ◯ c. ◯	28. a. ◯ b. ◯ c. ◯	34. a. ◯ b. ◯ c. ◯	40. a. ◯ b. ◯ c. ◯	46. a. ◯ b. ◯ c. ◯	
5. a. ◯ b. ◯ c. ◯	11. a. ◯ b. ◯ c. ◯	17. a. ◯ b. ◯ c. ◯	23. a. ◯ b. ◯ c. ◯	29. a. ◯ b. ◯ c. ◯	35. a. ◯ b. ◯ c. ◯	41. a. ◯ b. ◯ c. ◯	47. a. ◯ b. ◯ c. ◯	
6. a. ◯ b. ◯ c. ◯	12. a. ◯ b. ◯ c. ◯	18. a. ◯ b. ◯ c. ◯	24. a. ◯ b. ◯ c. ◯	30. a. ◯ b. ◯ c. ◯	36. a. ◯ b. ◯ c. ◯	42. a. ◯ b. ◯ c. ◯	48. a. ◯ b. ◯ c. ◯	

Infection in the Neonate, 2nd Edition

Name _____
Please Print

Address _____

City _____ State _____ Zip _____

Nursing License # _____ State(s) of License _____

Phone #_____ (optional) E-mail _____

Test expires June 30, 2019

Mail a $50 processing fee for 10 contact hours (2 hours pharmacology credit) payable to NICU Ink,® 1425 N. McDowell Blvd., Ste. 105, Petaluma, CA 94954-6513.

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Evaluation Directions

Thank you for taking the time to assist us in evaluating the effectiveness of this course. Using the scale below, darken the circles corresponding to your responses. If an item is not applicable, leave it blank.

①	②	③	④	⑤
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Objectives:

After reading the book, studying the content, and taking the test, the learner will be able to:

1. Define innate and adaptive immunities. ① ② ③ ④ ⑤
2. Outline the embryologic development of the immune system. ① ② ③ ④ ⑤
3. Discuss the role of each component of the immune system in the prevention and response to infection. ① ② ③ ④ ⑤
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5. Discuss organisms responsible for intrauterine infections. ① ② ③ ④ ⑤
6. Identify the characteristics of common bacterial infections. ① ② ③ ④ ⑤
7. Outline risk factors for neonatal bacterial infections. ① ② ③ ④ ⑤
8. Outline risk factors for neonatal viral infections. ① ② ③ ④ ⑤
9. Discuss medications used to treat neonatal early- and late-onset infection. ① ② ③ ④ ⑤
10. Describe potential contraindications to medications used to treat neonatal infections. ① ② ③ ④ ⑤

Presentation

1. The CNE activity is relevant to my practice. ① ② ③ ④ ⑤
2. The content of this CNE activity is likely to engender a change in my clinical practice. ① ② ③ ④ ⑤
3. The questions on the test reflected the content of the book. ① ② ③ ④ ⑤
4. The activity content was comprehensive. ① ② ③ ④ ⑤
5. The activity directions were clear. ① ② ③ ④ ⑤
6. The CNE activity was free of commercial bias. ① ② ③ ④ ⑤
7. I would recommend this CNE activity to colleagues. ① ② ③ ④ ⑤
8. I perceive the education level of this course to be: 1 = Basic; 2 = Intermediate; 3 = Advanced ① ② ③
9. How long did it take you to complete the course? ____ hours ____ minutes
10. In what level unit do you practice? I___ II___ III___

I am a ☐ staff nurse ☐ NNP ☐ nurse manager _____ other (please state)

What subjects would you like to see offered for CE courses? _____

_____

Additional comments: _____

_____