<table>
<thead>
<tr>
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<tr>
<td>Name:</td>
<td>Age</td>
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<tr>
<td>Qualification:</td>
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<td>M.B.B.S/M.D/D.Ch/</td>
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<tr>
<td>Other specialty specify Name of the SNCU posted:</td>
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<td>District Name:</td>
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<td>No of years /months working in SNCU:</td>
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<tr>
<td>Total Number of years of experience in neonatology</td>
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<tr>
<td>Do you have a smart phone: y / n</td>
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<tr>
<td>Are you comfortable in using internet based applications: y / n</td>
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<td>Do you have aaps in your mobile phone related to medicine: y / n</td>
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<tr>
<td>Do you have internet access at SNCU either personal/govt:</td>
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<tr>
<td>Is reference books available at the time of emergency in SNCU</td>
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</tbody>
</table>
MULTIPLE CHOICE QUESTIONNAIRE

1. Which of the following suggests the best method for disinfection of spoon and paladai:
   a. Cleaning with soap and water
   b. Boiling in water for 20 min
   c. Clean with soap and water followed by boiling in water for 20 min
   d. Autoclaving

2. For a 32 weeks preterm neonate who is on IV fluids for respiratory distress. One should start minimal enteral nutrition at
   a. 5-10 ml/kg/day
   b. 10-15 ml/kg/day
   c. 20-30 ml/kg/day
   d. 5-7 ml/kg/day

3. Signs of feed intolerance include all **EXCEPT**
   a. Gastric residues > 25% of previous feed
   b. Abdominal distension
   c. Hemodynamic instability
   d. Vomiting soon after feeds

4. The best fluid on day 1 for a 1100 gram neonate who cannot be started on oral feeds (MEN) due to shock is
   a. 10% dextrose
   b. Dextrose with Normal Saline
   c. Isolyte -P
   d. 5% dextrose

5. The volume of IV fluids to be started on day 1 for a 980 grams neonate who is otherwise stable is:
   a. 60 mL/kg/day
   b. 80 mL/kg/day
   c. 100 mL/kg/day
   d. 120 mL/kg/day

6. Which of the following statement about IV fluids therapy for a neonate less than 1100g is **TRUE**?
   a. The fluid rate needs to be initiated at 100 mL/kg on day 1 due to increased insensible losses.
   b. Sodium and potassium should be added to 10% D on day 3 of life.
   c. We may start Isolyte -P as maintenance after 72 hours in the neonate.
   d. The ideal requirement is 90 mL/kg 10% dextrose on day 1 due to increase insensible water loss.

7. State if true or false:
   A neonate with birth weight of 1450 g was hemodynamically unstable on day 1 of life, he received bolus once and inotropic support for 2 days and now weaned of inotropes. On day 4 of life he was started on MEN. Baby is tolerating MEN feeds, being 4 day old the next step should be start him on 100 ml/kg of feeds
8). All the following steps are to be done in managing a baby with severe hypothermia except
   a. Kangaroo Mother Care
   b. Give Vit K if not given or status not known
   c. Treat for hypoglycemia if sugar < 45mg/dl
   d. Rapid rewarming till 34˚C

9) 2 kg baby delivered by normal vaginal delivery, baby was roomed in with the mother, at 3 hours of life baby was active but her axillary temperature was 35.5˚C. Baby was started on KMC, room temperature was in the normal range, and blood glucose was 45mg/dl. The next step is to
   a. Breast feeds or EBM by cup /paaladai
   b. IV 10 % D daily maintenance
   c. IV 10% D bolus
   d. Bolus of 2ml/kg of 10% D followed by IV 10% D daily maintenance

10). Hyperthermia is defined as axillary temperature
   a. >37.5˚C
   b. >38.5˚C
   c. >38˚C
   d. >39˚C

11) Following are done in managing a baby with axillary temperature >39˚C EXCEPT
   a. Antipyretics
   b. Sponge the baby with luke warm water
   c. Remove extra clothes
   d. Ensure adequate feeding or fluids

12) In a neonate with moderate hypothermia, after interventions to increase the body temperature. Measurement of axillary temperature should be done?
   a. Every 10 min
   b. Every 30 min
   c. Every 60 min
   d. Every 15 min

13) Time of onset of neonatal tetanus in a baby born to mother not given TT and had an unclean birth is
   a. 1-2 days
   b. 1-3 days
   c. 3-14 days
   d. 14-28 days

14) 2 kg Term baby delivered by forceps delivery had sub galeal hemorrhage; baby did not require resuscitation at birth. At 2 hrs. Of life baby was pale, weak and fast pulse, CFT > 3sec. The volume and duration of time of giving NS bolus is
   a. 10ml/kg over 10 min
   b. 10ml/kg over 30 min
   c. 10ml/kg over 1 hr.
   d. 20ml/kg over 30 min

15) 1st step in the management of shock is
   a. Secure airway
b. Provide warmth  
c. Establish IV access & give boluses  
d. Measure glucose

16) 2.3 kg baby delivered by emergency LSCS to second gravid mother with abruptio placenta. Neonate had signs of shock hence Normal saline bolus 10 ml/kg was given but there was no improvement in shock, the next step is
   a. Dopamine to be started at 10 mic /kg/min  
b. Transfusion of O neg blood 15ml/kg  
c. Repeat bolus of NS 10ml/kg  
d. Baby is to be referred

17) Once the baby is stabilized with Normal Saline for shock, how frequently is HR, Sat, Capillary Refill Time, Urine output, Sensorium to be monitored  
   a. Every 60 min  
b. Every 30 min  
c. Every 10 min  
d. Every 15 min

18) 2.8 kg delivered at 42 weeks with MSL, baby was vigorous at birth with APGAR of 7 and 8 at 1 and 5 min respectively. Neonate was roomed with the mother was taking feeds well. On day 5 of life he was brought with complaints of lethargy the resident noticed that the baby had feeble pulse with cold peripheries. The possible cause is
   a. Persistent pulmonary hypertension  
b. Hypoplastic left heart syndrome  
c. Sepsis  
d. Severe dehydration.

19) Which of the following statement is wrong in managing a newborn with shock  
   a. Secure airway  
b. Support breathing, airway and temperature  
c. Start O2 in all newborn with shock  
d. Start O2 if saturation< 90%

20). Causes of shock in a newborn on day 1 of life are all except  
   a. Persistent pulmonary hypertension  
b. Asphyxia  
c. Blood loss  
d. Hypoplastic left heart syndrome

21) The initial management of a neonate with seizures is  
   a. Give oxygen  
b. Load with injection phenobarbitone  
c. Measure blood glucose  
d. Check airway, breathing and circulation

22) Management of neonatal seizures include all EXCEPT  
   a. Secure airway, ensure breathing and circulatory status  
b. Check blood glucose and give dextrose bolus if low  
c. Load with phenobarbitone if seizures are unresponsive to dextrose or if blood glucose is normal  
d. Start antibiotics assuming meningitis
23) Which of the following statement is **TRUE** regarding drug therapy in the management of neonatal seizures
   a. Phenobarbitone can be stopped if the neonate is seizure free for 72 hours after the first seizure episode
   b. Oral phenobarbitone has to be given for 2 weeks after the first seizure episode even if there is no seizure recurrence
   c. Babies with documented hypocalcemic seizures should receive vitamin D therapy
   d. IV Phenobarbitone and phenytoin should be administered rapidly to control seizures fast

24) The following are true regarding management of seizures in a neonate **EXCEPT**
   a. Lorazepam causes respiratory depression and facility for assisted ventilation should be available if the drug is used
   b. IV calcium gluconate can cause skin sloughing if the infusion extravasates
   c. If seizures are due to hypoglycemia, the appropriate response is to start IV fluids containing some dextrose
   d. IV Phenobarbitone can be repeated until a total of 40 mg/kg has been given

25) The following pairs of medications and their side effects are true **EXCEPT**
   a) IV Phenobarbitone: cardiac arrest
   b) IV Phenytoin: thrombophlebitis
   c) IV Calcium: cardiac arrhythmias
   d) IV Lorazepam: respiratory depression
OSCE 1
A neonate was born at 40 weeks with meconium stained liquor. Neonate required intubation and suctioning of meconium at birth. Neonate remained tachypneic since birth. However neonate is gradually deteriorating and now at 48 hours neonate is having weak and fast pulses with cold extremities.

Demonstrate the steps in management.
PREPARATION AND SUPPLIES

- Hand rub
- Clothes
- Gloves
- Glucometer
- IV catheter
- Betadine and spirit swabs
- Normal Saline
- Antibiotics
- Watch
- Mannequin
- Stethoscope
- Digital thermometer
- Oxygen source
- Pulse oximeter
## ANSWER TO OSCE 1

<table>
<thead>
<tr>
<th>Check List</th>
<th>Done</th>
<th>Not Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Washes hands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Examines the baby</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Heart rate</td>
<td></td>
<td></td>
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<tr>
<td>- Oxygen Saturation</td>
<td></td>
<td></td>
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<tr>
<td>- Capillary Refill</td>
<td></td>
<td></td>
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<tr>
<td>- Urine Output</td>
<td></td>
<td></td>
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<tr>
<td>- Observes sensorium</td>
<td></td>
<td></td>
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<tr>
<td>- Measures temperature</td>
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<td></td>
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<tr>
<td>- Respiratory rate</td>
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</tbody>
</table>

*Prompt: heart rate is 190/ minute, saturation 84% on room air, drowsy, not passed urine for last six hours, temperature is 36.0 degree Celsius, and respiratory rate is 70/ minute*

| Prompt: heart rate is 190/ minute, saturation 84% on room air, drowsy, not passed urine for last six hours, temperature is 36.0 degree Celsius, and respiratory rate is 70/ minute |      |          |
| 3. Provides warmth                             |      |          |
| 4. Secure airway                               |      |          |
| 5. Starts oxygen                               |      |          |
| 6. Checks blood sugar                          |      |          |
|   *Prompt: Blood sugar is 56 mg%*              |      |          |
| 7. Establishes IV access                       |      |          |
| 8. Gives normal saline bolus 20 ml/kg over one hour |      |          |
| 9. ays treat for sepsis                        |      |          |

1 mark for each correct response (Maximum Marks 15)
OSCE 2

1.2 kg baby on day 1 of life is not able to accept feeds by cup/spoon. Answer the following questions.

Demonstrate the procedure.
PREPARATION AND SUPPLIES

- Soap and water
- Orogastric tubes
- Gloves
- Syringes 10 mL, 20 mL, 5 mL
- Normal Saline
- Milk
- Mannequin
- Water
## ANSWER FOR OSCE- 2

<table>
<thead>
<tr>
<th>Check List</th>
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</thead>
<tbody>
<tr>
<td>1. Washes hands</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Speaks that will initiate intragastric feeds</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Checks the position of the tube</td>
<td>☐</td>
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</tr>
<tr>
<td>4. Take a fresh syringe (ideally sterile disposable) and remove the plunger</td>
<td>☐</td>
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<tr>
<td>5. Connects the barrel of the syringe to the end of the gastric tube</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Pinch the tube and fill the barrel of the syringe with the required volume of milk</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Holds the tube with one hand, releases the pinch</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Elevates the syringe barrel to 5-10 cm above the level of the baby</td>
<td>☐</td>
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</tr>
<tr>
<td>9. Lets the milk run from the syringe through the gastric tube by gravity</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. Does not force milk through the gastric tube by using the plunger of the syringe</td>
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<td>☐</td>
</tr>
<tr>
<td>11. Observes the infant during the entire gastric tube feed.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. Watches for breathing difficulty, change in colour, or infant becoming floppy, and vomits</td>
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<tr>
<td>13. Keeps the end of the gastric tube between feeds capped.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>14. Avoids flushing the tube with water or saline after giving feeds.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15. Replace the gastric tube with another clean gastric tube after three days, or earlier in case it is pulled out or becomes blocked.</td>
<td>☐</td>
<td>☐</td>
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</tbody>
</table>

1 mark for each correct response (Maximum Marks 15)  ☐  ☐
OSCE 3

A 35 weeks 1800 grams neonate is found to have cold extremities on routine morning rounds by the resident on duty. The resident records the temperature and notices it to be 35.9 degree celsius.

Answer the following questions

Demonstrate the steps in measurement of axillary temperature.
PREPARATION AND SUPPLIES

- Soap and water
- Clothed mannequin
- Spirit swabs
- Sterile container
- Patient sheet
- Glucometer
- Digital thermometer
ANSWER FOR OSCE -3

Check List  Done Not Done

Check List

1. Expose the auxiliary region of the infant. □ □
2. Ensure the baby is kept warm throughout the procedure. □ □
3. Take the thermometer from its container clean it by using a spirit swab from the bulb end. □ □
4. Shake it by holding the others end note the reading. It should be <35° C. □ □
5. Place the bulb end under the baby's arm in the middle of the arm near the groove of the axilla. □ □
6. Gently hold the baby's arm against the body and keep the thermometer in place for 3 minutes. □ □
7. Remove the thermometer and record the temperature. □ □
8. Clean the thermometer with spirit swab and keep it in a sterile container for next use. Document the temperature in the baby’s case notes. □ □
9. We should not add 0.5 or 1° c to the measured temperature. □ □
10. Prompt: temperature is 36.0 degree Celsius. □ □
11. Provide warmth using a warmer (or electric bulb) □ □
12. If no warmer is available, start skin to skin with mother (KMC). Cover mother and baby together optimally using pre-warmed clothes □ □
13. Ensure room is warm (maintain at 25°C – 28°C) □ □
14. Continue breast feeding □ □
15. Measure blood glucose, If <45mg/dl, treat for hypoglycemia (See STP for Hypoglycemia) □ □
16. Reassess every 15 minute; if temperature does not improve, increase setting of warmer. If no improvement or no warmer, REFER □ □
17. Allotted mark1 mark for each correct response (Maximum Marks 15) 1 mark for each response (Maximum Marks 15) □ □
A 35 weeks 1700 grams neonate cannot breast feed adequately. You have to advice the mother regarding the technique to express breast milk.

Answer the following questions

Demonstrate the steps in expression of breast milk.
PREPARATION AND SUPPLIES

- Wide mouthed container
- Soap and water
- Breast model
- Boling utensil
**ANSWER FOR OSCE- 4**

<table>
<thead>
<tr>
<th>Check List</th>
<th>Done</th>
<th>Not done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Collects all the needful equipment</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>(Clean wide mouthed container)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Washes hands with soap and water.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Puts the container in boiling water and leave it there for at least 5 minutes.</td>
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</tr>
<tr>
<td>4. Hold the container under the nipple and the areola and gently massage the breast.</td>
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<tr>
<td>5. Place the thumb on the top of the breast away from the nipple and rest fingers on the underside of the breast opposite to the thumb.</td>
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<td>☐</td>
</tr>
<tr>
<td>6. Push straight into the chest wall. Roll thumb and fingers forward at the same time. This rolling motion compresses and empties milk reservoirs without injuring sensitive breast tissue.</td>
<td>☐</td>
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</tr>
<tr>
<td>7. Compress and release the breast tissue between the thumb and the fingers for a few times.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>8. Compress and release all the way around the breast keeping the fingers at the same distance from the nipples.</td>
<td>☐</td>
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<tr>
<td>9. Stop expressing when the milk no longer flows or drips from the breast.</td>
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</tbody>
</table>

*Prompt: For how long can the milk be kept at room temperature*  
10. Expressed breast milk can be stored at room temperature for 6 hours  
1.5 marks for each response (Maximum Marks 15)  

☐ ☐
OSCE 5

You have been instructed by the resident incharge to administer Inj. Phenobarbitone to a 2500 grams neonate who presents with seizure at 2 hours of life following a difficult delivery. The dose recommended is 50mg diluted to be given as infusion.

Delineate the important steps in the preparation of the medication?
PREPARATION

- Syringes
- Cotton swabs with betadine and spirit
- Needle 24G and 26G
- Infusion pump
- Chart patient monitoring
- Phenobarbitone injection
ANSWER FOR OSCE- 5

Collects the equipment

1. **Check List**
   - Done
   - Done

2. Disposable or sterile glass syringe
   - Not

3. Cotton swabs
   - Not

4. Alcohol/spirit
   - Not

5. Needle 24G or 26G
   - Not

6. Injection comes as a preparation of 200mg/mL in 1 mL ampoules.
   - Not

7. Take 0.1 mL of the solution and dilute it with 0.9mL of saline.
   - Not
   - The resultant concentration is 20mg/mL.

8. Calculate the required amount (2.5mL) of the above solution; dissolve in normal saline sufficient to make the total volume 15 -20 mL
   - Not

9. Label and connect a fresh needle to the syringe.
   - Not

10. Connect the syringe to an infusion pump.
    - Not

    - Not

12. Read the label once again to confirm the medication.
    - Not

13. Sets the time on infusion pump.
    - Not

14. It is to be given over 15-29 minutes.
    - Not

15. Clean the port with spirit, betadine, spirit.
    - Not

16. Documents in the chart with time and dose.
    - Not

1 mark for each correct response (Maximum Marks 15)
   - Not
**LEARNER'S PERCEPTION (LIKERT'S SCALE)**

1. The content with regard to the following features was explicit and defined clearly: Put a tick at the most appropriate place:

<table>
<thead>
<tr>
<th>Session content</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
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</thead>
<tbody>
<tr>
<td>Flow diagram</td>
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<td>Pdf standard treatment protocols</td>
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<td>Procedure/ skill videos</td>
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<td>Overall Content</td>
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<tr>
<td>Equipment demonstration</td>
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</tbody>
</table>

2. This training was useful for your professional activities:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

3. This has increased your confidence to achieve personal objectives:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

4. All your doubts of the particular topic were cleared:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
5. You will be able to implement the techniques learnt during the sessions in your practice:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

6. This session will help to put the knowledge gained in to practice once the module is over:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

7. You would recommend the similar activity for the benefit of your colleagues:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

8. You achieved overall satisfaction from the course:
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

9. The videos and procedure related skills are related to the context and helpful.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

10. Who gave you the first information regarding this application?
    a. Internet and website
    b. Tutor of your group
c. Personal communication

d. Friends

11. Is this learning material exhaustive and time consuming?
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

12. Would you like to continue if given an opportunity again on new modules:
   a. Yes
   b. No

13. Did you know the use of computer before consenting to participate in this study?
   Yes / No

14. Did you know the use of Internet before consenting to participate in this study?
   Yes / No

15. Do you feel the content is appropriate?
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

16. The application is easy to learn.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

17. The application is interactive and user friendly.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree

18. The content adds to your previous knowledge and understanding of the specific topic.
   a. Strongly disagree
b. Disagree
c. Neither agree nor disagree
d. Agree
e. Strongly agree

19. As a result of these modules I can manage a baby with
   a. Seizure
   b. Shock
   c. Hypothermia
   d. Feeding of a low birth weight / sick newborn

20. The algorithm approach was very useful.
   a. Strongly disagree
   b. Disagree
   c. Neither agree nor disagree
   d. Agree
   e. Strongly agree