Diploma in Child Health

DCH(SA) Examination

CANDIDATE GUIDELINES

1.0 The DCH(SA) examination consists of three components:

- Three written papers. Two papers (3hrs each) covering relevant topics in paediatrics and child health and a data interpretation paper (2hrs)
- An objective structured clinical examination (OSCE) with six stations

2.0 Syllabus:

2.1 The Diploma in Child Health is designed to give recognition to competence in the care of children to general practitioners, community service doctors and medical officers who have trained in paediatrics and child health

2.2 The examination is not designed to test detailed knowledge of the in-patient care of children, nor minutiae of management of rare conditions

2.3 Practitioners in the community should have an understanding of hospital paediatrics to enable them to know when to refer and what to expect

2.4 Hospital practitioners should have a good understanding of social and community paediatrics and of other services in order to facilitate improved communication and an integrated child health service

3.0 The aim is to test primary care paediatrics, particularly the following aspects:

3.1 Diagnosis, management, epidemiology and prevention of common and important acute and chronic medical, surgical and psychological disorders of childhood; with particular reference to their management and primary care

3.2 Principles of health surveillance

3.3 Normal physical, mental and emotional growth and development

3.4 Minor paediatric abnormalities and their management

3.5 Prenatal and perinatal care as it affects the subsequent progress of the infant

3.6 The care of the newborn

3.7 The early detection of abnormalities and their management, including genetic counselling

3.8 Promotion of child health, health education, immunisation and screening procedures and their evaluation
3.9 Infant feeding and nutrition
3.10 The effects of social environment on child health, including accidents and child abuse
3.11 Assessment and long term management of children with chronic illness, disabilities and children with special needs
3.12 Principles of co-operation with social agencies
3.13 Adoption, fostering and legislation relevant to children
3.14 Principles of educational medicine. Educational and other problems in normal and special schools
3.15 Management of paediatric emergencies
3.16 Candidates are required to have completed a minimum of six months hospital experience in Paediatrics and Child Health before sitting the examination as it is unlikely that a candidate would be successful without this experience

4.0 THE EXAMINATION
4.1 Written examination:

4.1.1 The written consists of the following sections:
- Written Paper 1 (2-hour paper) - 20 data interpretation sets
- Written Paper 2 (2-hour paper) - 20 short notes type questions
- Written Paper 3 (3-hour paper) - 5 case-scenario-based short answer questions

4.2 Paper 1 (Data interpretation questions):

4.2.1 This component assesses the identification and interpretation of pictures; laboratory, radiological and other investigations; and the management of common paediatric conditions. Scenarios are presented, together with pictures, laboratory data or other relevant figures. Most questions require short answer responses.

4.2.2 Example:
Busi Nhlapo is a 15-month old boy living in an informal settlement. He was breastfed until one year of age. His mother complains that he has had a poor appetite for the past fortnight and also had diarrhoea for the past week.

- List two abnormal features noted in this picture of Busi (2)
- Busi’s Road to Health card is shown. How would you classify his nutritional status? Explain your answer (1)
- Identify two abnormalities in this picture, and provide one pathophysiological explanation for each abnormality. (2)
- What pathology is being demonstrated in this liver specimen? (1)
- List one manifestation or clinical sign of hepatic dysfunction that could develop in this child. (1)
- Provide two reasons for the high mortality experienced by children with Busi’s condition, despite hospitalisation. (2)
4.3 **Paper 2 (Short answer questions):**

4.3.1 **Instructions:**

4.3.1.1 Answer each of the following FIVE (5) questions in separate books

4.3.1.2 Each question has 4 sub-questions. Answers to each sub-question should be approximately 100-150 words (not more than 1 page) in length. Each sub-question is worth 5 marks. The whole paper is worth 100 marks

4.3.1.3 The aim is to check your ability to express objective knowledge with precision. Each question has a standard model answer and the marks awarded depend on the number of correct points mentioned matching the model answer

4.3.2 **Examples:**

4.3.2.1 Consent to medical treatment in children

4.3.2.2 The typical cerebrospinal fluid (CSF) findings in tuberculous meningitis

4.3.2.3 Clinical presentation and management of tinea capitis

4.3.2.4 Approach to a well 6-week-old child who presents with persistent conjugated hyperbilirubinaemia

4.3.2.5 Advice you would offer to parents on toilet training their child

4.4 **Paper 3 (Scenario-based questions):**

4.4.1 **Instructions:**

4.4.1.1 Answer each of the following FIVE (5) questions

4.4.1.2 Each question to be answered in a separate book

4.4.1.3 Each question is worth 40 marks. The whole paper is worth 200 marks

4.4.2 **Example:**

4.4.2.1 A professional nurse at a nearby clinic refers Linda, an 8-month-old girl, to your hospital. The nurse’s diagnosis is “Severe Pneumonia” according to the Integrated Management of Childhood Illness (IMCI) guidelines. Linda’s mother tells you that Linda was well until last night when she developed a cough and a noisy chest. Since this morning she has not been feeding and feels hot

4.4.2.2 Examination reveals a normally grown girl with an axillary temperature of 38°C, a respiratory rate of 60 breaths per minute, a pulse rate of 130 beats per minute, chest in-drawing, a 4 cm soft liver (displaced downwards), loss of cardiac dullness on percussion, and crackles and wheezes over most of the chest. Linda appears lethargic and grunts with expiration. She is neither pale nor cyanosed. Other findings are normal

- How severe is the respiratory.../
- How severe is the respiratory condition in this child? Motivate your answer (6)
- Based on the above clinical findings, what is the most likely pathophysiological diagnosis, and the THREE most likely aetiological agent(s)? (5)
- Indicate TWO differential diagnoses that you would consider, but exclude, and indicate for each why you have not made it the most likely diagnosis (6)
- List THREE special investigations you would carry out and describe the value of each investigation (6)
- Provide a pathophysiological explanation for the “chest in-drawing” and explain what information it gives concerning this child’s condition (4)
- Explain the mechanism for “grunting” in children with respiratory disease and its significance in this child (3)
- How would you treat this child and explain each therapy’s mechanism/mode of action (10)

4.5 Candidates must obtain a mark ≥ 45% in Written Papers 1 and 2 combined, to qualify for the Clinical examination. In addition, a mark of ≥50% is required in at least the data interpretation paper (Paper 1) OR the two theoretical papers (Paper 2 and 3) combined.

5.0 CLINICAL EXAMINATION – Comprehensive Paediatric Clinical Skills Assessment (CPCS A):

5.1 Introduction:
The section below provides an overview of the CPCS A clinical examination, with particular relevance to the candidate’s experience of the examination.

5.2 The CPCS A carousel:

5.2.1 The CPCS A examination consists of six clinical stations, each assessed by one independent examiner.

5.2.2 Candidates will start at any one of the six stations, and then move round the carousel of stations, at 15-minute intervals with a 5-minute break in-between, until they have completed the cycle.

5.2.3 Each station lasts 20 minutes; 15-18 minutes is spent with the patient(s) or role-player with a two to five minute break in-between.

5.2.4 A full cycle of six candidates will be completed in two hours (100 minutes examination time and 20 minutes preparation time before entering stations).

5.3 Written instructions:

For each case at the clinical stations, the candidate will receive written instructions as to what is required of him/her (Example 1).
5.3.1 Example 1:
Example of written instructions to the candidate at the cardiovascular station:

- This 2-year-old girl is thought to have a heart murmur. She is having difficulty finishing feeds, sweats a lot and is tired all the time. Please examine the cardiovascular system and tell the examiners what signs you find, and discuss your proposed management.

5.4 Clinical Stations 1, 2 and 3:

These clinical stations are similar to the current short cases in many paediatric undergraduate clinical examinations in their objectives, namely, to assess the candidate's ability to examine the child, interpret physical signs and discuss the case. Competence in examination technique, ability to elicit abnormal findings or their absence, and ability to discuss their significance (including management options) will be assessed.

5.4.1 The key features are as follows:
- All clinical examinations will be observed.
- There are written instructions for each case (see Example 1).
- There is a set time limit for each case (18 minutes).
- A set period (at least 6 of the 15 minutes) will be assigned for discussion.
- Every candidate on the carousel will be examined by the same examiner, at each station.
- Each examiner has a structured mark-sheet for the case.

5.4.2 The three clinical stations will present children with a variety of common clinical problems from the various body systems, e.g., Station 1 could be a child with pneumonia, Station 2 a child with cerebral palsy and Station 3 a child with hepatosplenomegaly.

5.4.3 It is expected that the candidate will commence each station with an assessment of the child's general appearance.

5.4.4 Individual candidates may vary in the exact sequence they adopt when examining a system. For example, it may be prudent to listen to a child’s heart while he or she is quiet. Having found an abnormality on auscultation, the candidate may wish to examine the femoral pulses, liver etc.

5.4.5 The examiners are looking for a systematic, fluid approach. A confident approach suggests that the candidate has regularly examined children previously.

5.5 Clinical Station 4:

The history taking skills station aims to assess the candidate's ability to gather data from the child’s parent/caregiver, to assimilate that information and then discuss the case.

5.5.1.../
5.5.1 Key features of this station are:

- written instructions for the case, usually in the form of a letter from the primary care clinic (or child's GP) are given to the candidate during the five minute interval before the station (Example 2)
- 10 minutes are allowed for the history taking, followed by five minutes for discussion with the examiner (after the parent/caregiver has left the station)
- the examiner is present throughout, observing the history taking
- each examiner has a structured mark-sheet for the case (marks for key questions that candidate should have asked)

5.5.2 Example 2:
Example of written instructions to the candidate at the history taking station:

- Instructions to candidate:
  - Please read the letter from this child’s primary health care clinic and then conduct an appropriate consultation with the child’s parent/caregiver. You are not expected to examine the child:
    
    "Dear Doctor

    This 4-year-old asthmatic child has developed worsening symptoms despite salbutamol and beclomethasone inhaler therapy. He is generally well apart from a worrying skin rash. She has a past history of I would be grateful for advice on her further management. Yours sincerely, Sr. Skosana (RN)"

5.6 Clinical Station 5:

The communication skills and ethics station aims to assess the candidate's ability to guide and organise the interview with the standardised subject (who may be a child, parent, relative, or surrogate), provide emotional support and discuss further management. Written instructions for the case will be given to the candidate during the five minute interval before this station (Examples 3 and 4)

5.6.1 These are the main types of communication scenarios:

- information giving (eg please tell this parent about the diagnosis)
- breaking bad news (eg please inform the parents that their child has died)
- consent (eg please explain why you need to do a lumbar puncture)
- critical incident (eg please talk to the parent of the child who has been given the wrong drug)
- ethics (eg please discuss the problem with the parents as they are refusing any further intervention)
- education (eg please explain to the mother so that she can deal with the situation)
5.6.2 Example 3:
Example of written instructions to the candidate at the communication 
skills station:
- Instructions to candidate:
  - This 18-month old child is about to leave hospital, nineteen 
    days after being admitted with severe malnutrition. Her 
    23-year-old, single unemployed mother is uncertain about 
    what she needs to do at home to prevent a relapse of her 
    child’s condition and what help is available to ensure that 
    she has enough food to feed her child
  - What advice would you give her on the further management 
    of the child’s condition? You are not expected to examine the 
    patient

5.6.3 Key features of this station are:
- the examiner is present throughout
- 10 minutes are allowed for the interaction between candidate and 
  client (parent), followed by 5 minutes for discussion with the 
  examiner (after the client has left the station)
- each examiner has a structured mark-sheet for the case

5.6.4 Example 4:
Example of written instructions to the candidate at the 
ethics/communication station:
Instructions to candidate:
“You are about to see Susan Kekana, the mother of a newborn infant 
who has experienced severe birth asphyxia. You are the doctor 
responsible for the baby. The baby has been on a ventilator for 48 
hours, with no improvement, and shows evidence of severe neonatal 
encephalopathy. You believe that withdrawal of ventilation may be 
appropriate. Susan has requested the meeting with you to discuss her 
baby’s condition and your plans for the baby”

6.0 Clinical Station 6:
Clinical station will require the candidate to demonstrate various skills, such as 
developmental assessment, vision and hearing screening, resuscitation, ie a 
series of three or four skills. The station may contain more than one patient (eg 
a newborn and a 4-year-old child), include both normal children and children 
with developmental or sensory deficits, and models or manikins. Table 1 
includes examples of skills that may be assessed (NB: the list is not 
comprehensive)

6.1 Table 1: Examples of skills that can be assessed:

<table>
<thead>
<tr>
<th>Skill</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision screening and testing</td>
<td>Ophthalmoscopy skills (red reflex, cataract)</td>
</tr>
<tr>
<td></td>
<td>Squint assessment (Cover test)</td>
</tr>
<tr>
<td></td>
<td>Testing of visual acuity (child &gt; 3 years)</td>
</tr>
<tr>
<td>Hearing screening and testing</td>
<td>6-12 months distraction test of hearing</td>
</tr>
<tr>
<td></td>
<td>Essential features for 18-30 months test of hearing,</td>
</tr>
<tr>
<td></td>
<td>eg recognition of familiar objects</td>
</tr>
<tr>
<td></td>
<td>Essential features for 2½ -3½ years test of hearing,</td>
</tr>
<tr>
<td></td>
<td>eg performance/conditioning test, speech discrimination</td>
</tr>
<tr>
<td>Language development</td>
<td>Comment on comprehension, expression and articulation</td>
</tr>
<tr>
<td>Developmental screening</td>
<td>Elicit a developmental history  Assess the developmental age of a child</td>
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<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Resuscitation skills</td>
<td>Neonatal resuscitation  Infant or child resuscitation  Basic CPR (eg drowning)</td>
</tr>
<tr>
<td>Anthropometrics and Growth</td>
<td>Weight, height, head circumference measurement  Plotting on charts Interpretation of charts</td>
</tr>
<tr>
<td>Bedside clinical procedures (may involve use of models)</td>
<td>Hand washing  Lumbar puncture  Umbilical catheterisation</td>
</tr>
<tr>
<td>Ear examination</td>
<td>Otoscopy skills</td>
</tr>
<tr>
<td>Skin rash</td>
<td>Description and recognition of a skin rash</td>
</tr>
<tr>
<td>Neonatal examination</td>
<td>Gestational age assessment, primitive reflexes</td>
</tr>
<tr>
<td>Bedside lab procedures</td>
<td>Stool lactose test, urine test</td>
</tr>
</tbody>
</table>

7.0 **Advantages of CPSA over the previous DCH(SA) clinical examination:**

7.1 The new examination involves a more standardised and objective assessment of the candidate's examination skills:
- direct assessment of the candidate's ability to elicit a history and to communicate with the child or his/her caregiver
- detailed feedback of performance to those candidates who fail
- increased validity and reliability of examination (multiple cases and skills assessed)

7.2 Example of CPCSA examination stations:
- Station 1 Respiratory system examination, or Cardiovascular system examination (15 minutes)
- Station 2 Abdominal system examination, or Reticuloendothelial system examination (15 minutes)
- Station 3 Central nervous system examination, or Other (general) system examination (15 minutes)
- Station 4 History taking skills (15 minutes)
- Station 5 Communication skills, or ethics (15 minutes)
- Station 6 Clinical skills (resuscitation, growth assessment, developmental assessment) (15 minutes)

7.3 The examination centre will provide standard equipment appropriate to the examination, but candidates may bring any suitable equipment that they are familiar with. Candidates should bring their own stethoscope

7.4 A child-friendly approach is expected at all times. Candidates will not be penalised if a child cries or becomes upset during the examination, provided that this is not the consequence of the candidate's technique. The candidate's general approach and attitude toward the child and caregiver is important and will be noted

7.5 Aggressive or inconsiderate behaviour, either physical or verbal towards a child or his/her family will almost invariably result in failure
8.0 Mark allocation:

8.1 Written Paper 1: 14%
8.2 Written Paper 2: 16%
8.3 Written Paper 3: 16%
8.4 OSCE: 54%

NB:

The Written Papers and CPCSA have individual pass marks (≥ 45% for the written section and ≥ 50% for the CPCSA). A failure in either section cannot be compensated by a good performance in other sections and will result in an overall fail in the examination.

9.0 Marking scheme for CPCSA

At the end of each station the examiner will make an overall judgement as to whether or not the candidate’s performance was a:

• Clear Pass
• Pass
• Bare Fail
• Clear Fail
• Unacceptable

• The Clear Pass is given to any candidate who demonstrates the expected competencies. This includes candidates who have satisfied the requirements and those who excel.
• Pass is given to candidates who have achieved the minimum standard, despite some minor failings.
• Bare Fail implies that the candidate has made an unacceptable number of minor errors or performed in a way that is unsatisfactory.
• A Clear Fail is given for a poor performance (eg major errors or omissions, finding non-existent signs, poor interpretation of findings, inadequate management plan).
• Unacceptable is given for unprofessional conduct (eg rough handling of a child or rudeness) or for an extremely poor performance.

The following marks (%) will be awarded for each of the overall station judgements:

<table>
<thead>
<tr>
<th>Clear Pass</th>
<th>Pass</th>
<th>Bare Fail</th>
<th>Clear Fail</th>
<th>Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-100</td>
<td>50-55</td>
<td>45</td>
<td>20-40</td>
<td>0-15</td>
</tr>
</tbody>
</table>

To pass the clinical component of the DCH (ie the CPCSA):

• The overall score must be ≥50%
• A candidate may ‘clearly fail’ one station, but must pass the other five stations.
• A candidate may ‘barely fail’ two stations, but must pass the other four stations.
• A candidate may ‘clearly fail’ one station, ‘barely fail’ another station, but must have a ‘clear pass’ in all the other four stations.

JOHANNESBURG
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ALV/ab