CONFIDENTIAL

The National Clinical Coding Examination [UK]

27 March 2018

Paper 2 Theory - ANSWERS
1:30 pm - 4:35 pm
[THREE HOURS]

The first 5 minutes will be spent reading through this Examination Paper

This Examination Paper consists of 3 Sections: C, D and E.

Section C – General Short Theory Questions [20% of the Marks]
Answer all questions in this Section in the space provided on the Examination Paper.

Section D [45% of the Marks]
Answer all questions on the lined paper provided. Use a new sheet of paper for each answer. **Write only on one side of the paper.**

General Theory ICD-10 Questions D[1] [15% of the Marks]
Answer either Section D1A or D1B
General Theory OPCS-4 Questions D[2] [15% of the Marks]
Answer either Section D2A or D2B
Clinical Terms Questions D[3] [10% of the Marks]
Answer either Section D3A or D3B
Miscellaneous Questions D[4] [5% of the Marks]
Answer either Section D4A or D4B

Section E – Anatomy & Physiology (including Medical Terminology) [35% of the Marks]
Answer all questions in this Section in the space provided on the Examination Paper.
Section E[1] Anatomy & Physiology – Answer all Questions 1-15
Section E[2] Medical Terminology – Answer all Questions 1-10
Section E[3] Diagrams – Label **both** diagrams
Section C – General Theory Short Questions [20% of the Marks]

You must write your Candidate Number in the top right hand corner of each page.

Answer ALL 20 questions in this Section writing your answers in the spaces provided.

1. In ICD-10 5th Edition, where a note states to ‘Use an additional code, if desired’, how should ‘if desired’ be applied? [2 Marks]

   Where information is present in the medical record the additional code must be assigned.

   Reference: DConvention.2: Instructional notes

2. What are the four levels of complexity of operation/intervention described in PRule 3: Axis of the classification? [4 Marks]

   Major
   Intermediate
   Minor
   Non-operative procedures

   Reference: PRule 3: Axis of the classification
   National Clinical Coding Standards OPCS-4 2017 reference book

3. In what circumstances must ‘hypovolaemia’ always be coded? [2 Marks]

   When it is confirmed to have been treated with intravenous (IV) fluids or blood transfusion.

   Reference: DCS.IV.7: Dehydration and hypovolaemia

4. What is the OPCS-4 standard for the coding of high cost drugs administered in theatre? [2 Marks]

   High cost drugs administered in theatre must be recorded in addition to the code(s) classifying the intervention(s).

   Reference: HCDCS3: High cost drugs administered in theatre
   High Cost Drugs Clinical Coding Standards OPCS-4
5. What must be coded in OPCS-4 when angioplasty and insertion of stent or stent graft are performed at the same time, and individual codes are available for the angioplasty and for the stent/stent graft insertion; why is this? [2 Marks]

Only the code for the stent/stent graft insertion is required, because the angioplasty is implicit within the stent/stent graft insertion code.

Reference: PChSL3: Insertion of stents and stent grafts
National Clinical Coding Standards OPCS-4 2017 reference book

6. Hearing loss must always be coded using the ICD-10 5th Edition classification when it is described using either of which two terms? [2 Marks]

- Profound
- Severe

Reference: DCS.VIII.1: Severe or profound hearing loss (H90 and H91)

7. Name the two types of injuries of the musculoskeletal system and connective tissue that must be assigned to a code from ICD-10 5th Edition Chapter XIII Diseases of the musculoskeletal system and connective tissue. [2 Marks]

- Old/chronic
- Recurrent

Reference: DChS.XIII.2: Chronic versus current injuries of the musculoskeletal system and connective tissue

8. When coding foot osteotomy procedures, on what does the assignment of the appropriate OPCS-4 category depend? [4 Marks]

When coding foot osteotomies, the appropriate OPCS-4 category will depend on the method of osteotomy and whether the osteotomy was performed on a single metatarsal, on multiple metatarsals, or on the phalanges.

Reference: PCSW12: Osteotomy of the foot
National Clinical Coding Standards OPCS-4 2017 reference book
<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td><strong>Describe the OPCS-4 standard for the coding of an excision biopsy (excision and biopsy). [3 Marks]</strong>&lt;br&gt;&lt;br&gt;When an excision and biopsy is performed on the same site during the same theatre visit, only assign a code(s) for the excision (as a biopsy is an integral part of the excision.)&lt;br&gt;&lt;br&gt;<strong>Reference: PGCS9: Excision and biopsy procedures</strong>&lt;br&gt;National Clinical Coding Standards OPCS-4 2017 reference book</td>
</tr>
<tr>
<td>10.</td>
<td><strong>Describe the ICD-10 5th Edition coding standard for the use of category O20 Haemorrhage in early pregnancy. [2 Marks]</strong>&lt;br&gt;&lt;br&gt;Codes in category O20.- <strong>Haemorrhage in early pregnancy</strong> must be used for any vaginal bleeding before 24 completed weeks of gestation, except when the pregnancy proceeds to abortive outcome (when a code from categories O00-O08 Pregnancy with abortive outcome must be used instead.)&lt;br&gt;&lt;br&gt;<strong>Reference: DCS.XV.6: Haemorrhage in early pregnancy (O20)</strong>&lt;br&gt;National Clinical Coding Standards ICD-10 5th Edition (2017) reference book</td>
</tr>
<tr>
<td>11.</td>
<td><strong>Name the three routes of administration of chemotherapy that require an OPCS-4 body system chapter code to be assigned preceding the procurement / delivery code. [3 Marks]</strong>&lt;br&gt;&lt;br&gt;Intrathecal&lt;br&gt;Intravesical&lt;br&gt;Intracavitary&lt;br&gt;&lt;br&gt;<strong>Reference: CRCS2: Route of administration:</strong>&lt;br&gt;Chemotherapy Regimens Clinical Coding Standards and Guidance OPCS-4 April 2017</td>
</tr>
<tr>
<td>12.</td>
<td><strong>Describe the ICD-10 5th Edition standard for the coding of a digestive system haemorrhage when it is a symptom of a specified, diagnosed disease. [2 Marks]</strong>&lt;br&gt;&lt;br&gt;These codes must not be assigned in addition, unless they have been treated in their own right.&lt;br&gt;&lt;br&gt;<strong>Reference: DCS.XI.9: Haemorrhage of digestive system (K92.0, K92.1 and K92.2)</strong>&lt;br&gt;National Clinical Coding Standards ICD-10 5th Edition (2017) reference book</td>
</tr>
</tbody>
</table>
13. Describe the OPCS-4 sequencing standard when resection and reconstruction procedures have been performed during the same theatre visit. [1 Mark]

The resection must be assigned before the codes that classify the reconstruction.

Reference: PGCS7: Resection and reconstruction procedures
National Clinical Coding Standards OPCS-4 2017 reference book

14. When must anti-D injections be coded using OPCS-4? [1 Mark]

Anti-D injections must be recorded each time they are given.

Reference: PCSR8: Anti-D injection following delivery (X30.1)
National Clinical Coding Standards OPCS-4 2017 reference book

15. Describe the three circumstances when the ICD-10 5th Edition fourth character .8 would not be assigned for a malignant neoplasm overlapping site boundaries. [3 Marks]

When the point of origin is known.
When the sites are not contiguous.
When the Alphabetical Index directs the coder to a specific code for the combined sites.

Reference: DCS.II.3: Malignant neoplasms overlapping site boundaries (C00-C75 and C76.8)

16. When must ICD-10 5th Edition code R68.8 Other specified general symptoms and signs be assigned for multiple organ failure? [1 Mark]

When no further clarification is provided about which individual organs have failed.

Reference: DCS.XVIII.10: Multiple organ failure (R68.8)

17. Fourth characters at OPCS-4 category Y98 Radiology procedures provide four different pieces of information. Name two of these. [2 Marks]

Number of body areas scanned/examined.
Duration of the scan.
Mobile and intraoperative scans.
Extensive patient repositioning.

Reference: PCSU2: Radiological contrast and body areas (Y97-Y98)
National Clinical Coding Standards OPCS-4 2017 reference book
18. If a patient, who has coronary artery disease, is admitted with and treated for an acute myocardial infarction, and has an intervention to treat the coronary artery disease at the same hospital, which of these two conditions will be the primary diagnosis and why? [2 Marks]

The acute MI must be recorded as the primary diagnosis, as it is considered more clinically significant.

Reference: DCS.IX.5: Coronary artery disease interventions and acute myocardial infarction

19. Name the two types of approach associated with a transcatheter aortic valve implantation (TAVI) procedure. [2 Marks]

Surgical approach through left ventricle.
Transluminal approach through an artery.

Reference: PCSK1: Transcatheter aortic valve implantation (K26)
National Clinical Coding Standards OPCS-4 2017 reference book

20. If a patient is diagnosed with more than one grade of cervical intraepithelial neoplasia (CIN), vaginal intraepithelial neoplasia (VAIN) or vulval intraepithelial neoplasia (VIN), what must be coded? [1 Mark]

Only the code for the highest grade must be assigned.

Reference: DCS.XIV.10: Intraepithelial neoplasia of female genital tract (CIN, VAIN, VIN)

[Section C - Total maximum number of marks: 43]
Section D – General Theory Questions

Please use separate Answer Sheets found at the end of this Question Paper, to answer your chosen questions in Section D.
- You must use a new Answer Sheet for each question.
- Write on only one side of the Answer Sheet.
- You must write your Candidate Number in the top right hand corner of each Answer Sheet that you use.
- You must write the Question Number in the top left hand corner of each Answer Sheet that you use.

Section D[1] – ICD-10 Theory [15% of the Marks]

Answer either Part A or Part B of the following:

Please make it clear which question you are answering and label each Section accordingly.

Question D1 Part A: [Answer all components of this question, i, ii and iii]

<table>
<thead>
<tr>
<th>i) Provide a description of the ICD-10 5th Edition category and code structure. [6 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code assignment must always be made to four character level or five character level (where available and in line with fifth character coding standards, in order for the code to be valid).</td>
</tr>
<tr>
<td>Where a three character category code is not subdivided into four character subdivisions the ‘X’ filler must be assigned in the fourth character field (so the codes are of a standard length for data processing and validation. The code is still considered a three character code from a classification perspective).</td>
</tr>
<tr>
<td>Where a three character code requires assignment of both the ‘X’ filler and a fifth character subdivision, the ‘X’ filler must continue to be recorded in the fourth field before the fifth character.</td>
</tr>
<tr>
<td>Reference: DRule.2: Category and code structure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii) Describe sequelae codes and their use in ICD-10 5th Edition. [5 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequelae codes are used to indicate that a current condition or disease has been caused by a previously occurring disease or injury which has been treated, and is no longer present. Sequelae codes must only ever be used in a secondary position directly after the code for the current condition or disease (they must never be used on their own).</td>
</tr>
<tr>
<td>Reference: DGCS.8: Sequelae or late effects</td>
</tr>
</tbody>
</table>
### Describe the ICD-10 5th Edition sequencing associated with the coding of primary, secondary and history of malignant neoplasms. [5 Marks]

<table>
<thead>
<tr>
<th>iii)</th>
<th>Describe the ICD-10 5th Edition sequencing associated with the coding of primary, secondary and history of malignant neoplasms. [5 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When a primary malignant neoplasm and a secondary malignant neoplasm are both present, the code for the primary malignant neoplasm must be assigned before the code for the secondary malignant neoplasm, <em>unless</em> the secondary malignant neoplasm is the main condition treated or investigated.</td>
</tr>
<tr>
<td></td>
<td>When the primary malignant neoplasm has been eradicated and the main condition being treated is the secondary neoplasm, a code from category <em>(Z85.-)</em> <strong>Personal history of malignant neoplasm</strong> must be assigned in a secondary position, as this provides additional information about the site of origin.</td>
</tr>
</tbody>
</table>

**Reference:**

| Reference: DCS.II.1: Primary and secondary malignant neoplasms (C00-C97) |

[D1A - Maximum Mark of 16]
Question D1 Part B: [Answer all components of this question, i and ii]

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

i) Describe the axis of the ICD-10 5th Edition classification and rules of chapter prioritisation. [11 Marks]

ICD-10 5th Edition is a variable-axis classification. Its 22 chapters are divided into the following three types:

**Special group chapters**
Nine chapters (Chapters I-V, XV-XVII and XIX) classify conditions that do not focus on any one body system. In general, conditions are primarily classified to one of the ‘special group’ chapters.

**Body system chapters**
Nine chapters (Chapters VI-XIV) classify conditions according to the body system they affect.

**Other chapters**
Four chapters (Chapters XVIII and XX-XXII) classify other disorders and factors which do not sit comfortably in either a special group or body system chapter.

Where there is any doubt as to where a condition should be coded, the ‘special group’ chapters must take priority.

Reference: DRule.1: Axis of the classification and rules of chapter prioritisation

ii) Describe the ICD-10 5th Edition classification standard when coding ‘rectal haemorrhage’ and ‘per rectal haemorrhage’. [5 Marks]

Code (K62.5) Haemorrhage of anus and rectum must only be assigned for an actual haemorrhage of the anus and/or rectum. It must not be assigned for haemorrhage that has occurred from elsewhere in the gastrointestinal tract that is merely exiting via the rectum, ie per rectal haemorrhage.

Code (K92.2) Gastrointestinal haemorrhage, unspecified must be assigned for a haemorrhage that occurred via the rectum but is not specified as being from the actual rectum or anus. This code must not be assigned when it is a symptom of a specific disease which has been diagnosed.

Reference: DCS.XI.7: Rectal haemorrhage and per rectal haemorrhage (K62.5 and K92.2)

[D1B - Maximum Mark of 16]
Section D[2] – OPCS-4 Theory [15% of the Marks]

Answer either Part A or Part B of the following:

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

Question D2 Part A: [Answer all components of this question, i, ii and iii]

i) Describe the OPCS-4 coding rule related to the use of Section III Alphabetical Index of Surgical Abbreviations within OPCS-4 Volume II – Alphabetical Index. [3 Marks]

Where an abbreviation is used in the medical record the coder must analyse the procedural information and ensure that code and its description fully reflects the procedure performed.

Where the coder is unsure what procedure the abbreviation describes they must seek advice from the responsible consultant to ensure that the correct codes are assigned.

Reference: PRule 9: Surgical abbreviations
National Clinical Coding Standards OPCS-4 2017 reference book

ii) Describe the OPCS-4 cross references, their use, and where they are found. [6 Marks]

Cross references are provided in the Alphabetical Index to ensure that all possible terms are referenced by the coder. Cross references explicitly direct the coder to other entries in the index:

See
This is an explicit direction to look elsewhere.

See also
This is a reminder to look under another lead term if all the information cannot be found under the first lead term entry.

Reference: PConvention 1: Cross references
National Clinical Coding Standards OPCS-4 2017 reference book
### iii) Describe the OPCS-4 clinical coding standard when assigning codes for specifically classifiable arteries. [5 Marks]

Only when an artery or its branches is specified in the category/code description or at the category inclusions can these codes be assigned. A site code must be assigned in addition when the artery is listed as an inclusion term.

Where the artery is not specifically referred to within the code description or inclusion, even if the origin is known, do **not** assign a code from these categories. A code from categories describing unspecified arteries (*L65–L72*) must be used instead with the addition of a site code from Chapter Z where available.

Reference: *PChSL2: Assigning codes for specifically classifiable arteries*

National Clinical Coding Standards OPCS-4 2017 reference book

[D2A - Maximum Mark of 14]
Question D2 Part B: [Answer all components of this question, i, ii and iii]

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

<table>
<thead>
<tr>
<th></th>
<th>Description and details</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Describe the concept of overflow categories in OPCS-4 and how they are identified in the Alphabetical Index. [5 Marks]</td>
</tr>
</tbody>
</table>

When additional operations/interventions are required to be classified to that chapter but the chapter is full; overflow categories are created at the end of the chapter. Overflow categories take the same structure as other categories within OPCS-4 but they are assigned the letter O, no matter which chapter they are classified within.

Within the Alphabetical Index codes classified within overflow categories are identified by placing the letter of the chapter the overflow category is contained within in brackets at the end of the index entry.

Reference: PRule 5: Capacity, overflow categories and principal and extended categories
National Clinical Coding Standards OPCS-4 2017 reference book

<table>
<thead>
<tr>
<th></th>
<th>Description and details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ii</td>
<td>Describe the OPCS-4 standard relating to the coding of diagnostic imaging procedures using body system chapter codes. [5 Marks]</td>
</tr>
</tbody>
</table>

When a specific code classifying a diagnostic imaging procedure is available in a body system chapter (Chapters A-T and V-W), the body system chapter code must be used in preference to the diagnostic imaging codes in Chapter U (categories U01–U21 and U34–U37).

The standard to only code diagnostic imaging procedures in an outpatient setting or if the patient has been admitted solely for the purpose of a procedure/intervention only applies to diagnostic imaging codes in Chapter U (categories U01–U21 and U34–U37 and categories R36–R43).

Additional codes for radiology with contrast (category Y97 Radiology with contrast) and radiology procedures (category Y98 Radiology procedures) must not be assigned with body system chapter imaging codes.

Reference: PCSU1: Diagnostic imaging procedures (U01–U21 and U34–U37)
National Clinical Coding Standards OPCS-4 2017 reference book
### iii) Describe the OPCS-4 standard that must be applied when coding angiocardiography (ventriculography) of the heart and coronary arteriography, carried out during the same visit to theatre. [4 Marks]

When an angiocardiography (ventriculography) of the heart (codes K63.1-K63.3) is performed with a coronary arteriography (codes K63.4-K63.6), during the same radiology/theatre visit, both procedures must be recorded. An image control / guidance code (category Y53.- Approach to organ under image control) must also be assigned in a secondary position in order to classify the method of image control used. A code for catheterisation (category K65 Catheterisation of heart) must not be assigned in addition to a code for contrast radiology (category K63 Contrast radiology of heart) as catheterisation is implicit within these codes.

Reference: PCSK8: Angiocardiography (ventriculography) of the heart and coronary arteriography (K63)
National Clinical Coding Standards OPCS-4 2017 reference book

[D2B - Maximum Mark of 14]
Section D[3] – Clinical Terms [10% of the Marks]

Answer either Part A or Part B of the following:

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

Question D3 Part A: [Answer all components of this question, i, ii , iii, iv, v and vi]

i) Name the two types of relationships found in SNOMED CT. [1 Mark]

<table>
<thead>
<tr>
<th>IS_A</th>
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<tbody>
<tr>
<td>Attribute</td>
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</table>

Reference: https://isd.hscic.gov.uk/artefacts/trud3/e-learning/flash/EL_SCT/10_UKTC_Intro-SNOMED_eLearning_V06.htm


The SNOMED CT UK Edition contains UK-specific content within the UK Clinical Extension and UK Drug Extension.

Reference: https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=299027

iii) Name the three types of components that represent SNOMED CT content. [3 Marks]

<table>
<thead>
<tr>
<th>Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptions</td>
</tr>
<tr>
<td>Relationships</td>
</tr>
</tbody>
</table>


iv) Name three benefits, to the clinician, of using SNOMED CT in an Electronic Patient Record (EPR). [3 Marks]

- Vital information can be shared consistently within and across health and care settings
- Facilitates analysis to support extensive clinical audit and research
- Reduced risk of misinterpretations of the record in different care settings
- Supports clinical decisions
- Supports the sharing of clinical information
- Supports clinical audit
- Removes language barriers
- Improves legibility
- Decreases duplication of patient information
- Decreases re-recording of patient information
- Less ambiguous clinical information
- Clarity of clinical information
- Consistency leads to improved sharing of information
- Provides capture of clinical information at different levels required by different healthcare professions
- Electronic recording in a consistent way reduces errors and can help to ensure record completeness

[This list is not exhaustive]

Reference:
https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=301107#301107

v) Fill in the missing words below to identify the appropriate concept description type, as used in SNOMED CT. [1 Mark]

a. The **Fully Specified Name** is a phrase that unambiguously describes a concept and includes a hierarchy tag in brackets after the phrase.

b. A **Synonym** is a word or phrase commonly used by clinicians to refer to a concept.


vi) Name the **two** fundamentals of clinical coding that the SNOMED CT to ICD-10 and OPCS-4 maps are compiled to reflect. [1 Mark]

- The National Clinical Coding Standards
- The Three Dimensions of Coding Accuracy

Reference:
https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=298323

[D3A - Maximum Marks of 10]

OR
**Question D3 Part B: [Answer all components of this question, i, ii, iii, iv, v and vi]**

Please use separate Answer Sheets making it clear which question you are answering.

<table>
<thead>
<tr>
<th>i)</th>
<th>What is SNOMED CT? [3 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNOMED CT is a standardised, structured clinical vocabulary relating to the care of the individual. It is the most comprehensive and precise clinical terminology product in the world. It enables consistent representation of clinical content in electronic health records.</td>
<td></td>
</tr>
<tr>
<td>Reference: <a href="https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=297907#whatis_snomedct">https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=297907#whatis_snomedct</a></td>
<td></td>
</tr>
<tr>
<td><a href="https://www.snomed.org/snomed-ct/what-is-snomed-ct">https://www.snomed.org/snomed-ct/what-is-snomed-ct</a></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii)</th>
<th>a. Which national organisation is the UK Member’s National Release Centre for SNOMED CT? [1 Mark]</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Digital</td>
<td></td>
</tr>
</tbody>
</table>

b. How often is SNOMED CT UK Edition updated? [1 Mark]

| Twice a year |
| Reference: [https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=297907#get](https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=297907#get) |
| [https://isd.hscic.gov.uk/artefacts/trud3/e-learning/flash/EL_SCL/10_UKTC_Intro-SNOMED_eLearning_V06.htm](https://isd.hscic.gov.uk/artefacts/trud3/e-learning/flash/EL_SCL/10_UKTC_Intro-SNOMED_eLearning_V06.htm) |

<table>
<thead>
<tr>
<th>iii)</th>
<th>Name two benefits of using an electronic care record. [2 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Reduced storage costs</td>
<td></td>
</tr>
<tr>
<td>• Can be accessed from many places</td>
<td></td>
</tr>
<tr>
<td>• Can be accessed by multiple users simultaneously</td>
<td></td>
</tr>
<tr>
<td>• Can be transferred quickly</td>
<td></td>
</tr>
</tbody>
</table>

[This list is not exhaustive] |
| Reference: [https://isd.hscic.gov.uk/artefacts/trud3/e-learning/flash/EL_SCL/10_UKTC_Intro-SNOMED_eLearning_V06.htm](https://isd.hscic.gov.uk/artefacts/trud3/e-learning/flash/EL_SCL/10_UKTC_Intro-SNOMED_eLearning_V06.htm) |
iv) **True or false** - The maps provide a fully automated link from SNOMED CT to ICD-10 and OPCS-4. [0.5 Mark]

False

Reference: [https://elearning.ihtsdotools.org/mod/scorm/player.php?a=42&currentorg=&scoid=84&sesskey=aaF8wFKL1H&display=popup&mode=normal](https://elearning.ihtsdotools.org/mod/scorm/player.php?a=42&currentorg=&scoid=84&sesskey=aaF8wFKL1H&display=popup&mode=normal)

v) **Please tick the one correct statement, from the choices below:** [0.5 Mark]

SNOMED CT Concepts:

a. Have a numeric identifier that may change  

b. Are the central component of SNOMED CT  

c. Have only one description  

Reference: [https://elearning.ihtsdotools.org/mod/scorm/player.php?a=42&currentorg=&scoid=84&sesskey=aaF8wFKL1H&display=popup&mode=normal](https://elearning.ihtsdotools.org/mod/scorm/player.php?a=42&currentorg=&scoid=84&sesskey=aaF8wFKL1H&display=popup&mode=normal)

vi) **Name four uses of the data collected via the SNOMED CT to ICD-10 and OPCS-4 maps.** [2 Marks]

- Admitted Patient Care Commissioning Dataset
- National Database collections for national statistical analyses
- Hospital Episode Statistics (HES)
- Patient Episode Data for Wales (PEDW)
- Scottish Morbidity Records (SMR)
- Cancer Registries
- Performance Indicators
- Commissioning currencies
- Epidemiology
- Commissioning
- National Tariff
- Casemix
- Public Health
- Business planning
- Population Health monitoring
- Secondary Uses Service

[This list is not exhaustive]

Reference: [https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=298323#298323](https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=298323#298323)

[D3B - Maximum Marks of 10]
Section D[4] – Miscellaneous Section [5% of the Marks]

**Answer either Part A or Part B of the following:**

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

**Question D4 Part A: [Answer all components of this question, i and ii]**

<table>
<thead>
<tr>
<th>i)</th>
<th>What is Hospital Episode Statistics (HES)? [3 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A data warehouse containing records of all patients admitted to NHS hospitals in England. It contains details of every hospital stay in English NHS Hospitals and English NHS commissioned activity in the independent sector.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii)</th>
<th>Local policy and procedure documents should be inspected as part of a clinical coding audit. Which four criteria are they expected to follow? [4 Marks]</th>
</tr>
</thead>
</table>
| | • They are up-to-date  
• There is evidence of local agreements and implementation  
• They have been applied consistently  
• They do not contravene national clinical coding standards |

[D4A - Maximum Marks of 7]

OR
**Question D4 Part B: [Answer all components of this question, i and ii]**

Please use separate Answer Sheets making it clear which question you are answering and label each Section accordingly.

<table>
<thead>
<tr>
<th>i)</th>
<th>Describe the function of the NHS Data Model and Dictionary Service. [4 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>It develops, maintains and supports NHS data standards. It gives a reference point or assured information standards, to support health care activities in the NHS in England.</td>
</tr>
<tr>
<td></td>
<td><strong>Reference:</strong> NHS Data Model and Dictionary Service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii)</th>
<th>Provide a brief description of Healthcare Resource Groups (HRGs). [3 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Healthcare Resource Groups (HRGs) are standard groupings of clinically similar treatments which use common levels of healthcare resource.</td>
</tr>
<tr>
<td></td>
<td><strong>Reference:</strong> What are Healthcare Resource Groups?</td>
</tr>
<tr>
<td></td>
<td><a href="http://content.digital.nhs.uk/hrg">http://content.digital.nhs.uk/hrg</a></td>
</tr>
</tbody>
</table>

[D4B - Maximum Marks of 7]
SECTION E - Anatomy & Physiology (including Medical Terminology)

[35% of the Marks]

Please be aware that spelling will be taken into account during the marking process.

Section E[1] – Anatomy & Physiology

You must write your Candidate Number in the top right hand corner of each page.

Answer ALL 15 questions in this Section, writing your answers in the spaces provided.

<table>
<thead>
<tr>
<th>Question</th>
<th>Question Text</th>
<th>Marks</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Name the three continuous parts that make up the small intestine.</td>
<td>3</td>
<td>Basic Anatomy &amp; Physiology Clinical Coding Instruction Manual Page 91.</td>
</tr>
<tr>
<td></td>
<td>Duodenum</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jejunum</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ileum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>What is the name given to the smallest veins?</td>
<td>1</td>
<td>Basic Anatomy &amp; Physiology Clinical Coding Instruction Manual Page 38.</td>
</tr>
<tr>
<td></td>
<td>Venules</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Where in the body are synovial membranes found and briefly describe their function?</td>
<td>3</td>
<td>Basic Anatomy &amp; Physiology Clinical Coding Instruction Manual Page 20.</td>
</tr>
<tr>
<td></td>
<td>Lines freely movable joints. The membrane secretes synovial fluid which lubricates the joints.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>What structure is part of the spermatic cord and runs from the testis to the seminal vesicle?</td>
<td>1</td>
<td>Basic Anatomy &amp; Physiology Clinical Coding Instruction Manual Page 123.</td>
</tr>
<tr>
<td></td>
<td>Vas deferens or deferent duct or ductus deferens</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. **Briefly describe the structure of the medullary canal and state what it contains. [3 Marks]**

| **Hollow in the centre of a long bone; contains bone marrow.** |


6. **What gland secretes the oily fluid, sebum? [1 Mark]**

| **Sebaceous gland** |

**Reference:** Basic Anatomy & Physiology Clinical Coding Instruction Manual Page 33

7. **What is the name of a form of sugar that it is a product of starch metabolism in the body? [1 Mark]**

| **Glucose** |


8. **Name the three small bones in the ear, and give the collective name for them. [4 Marks]**

| **Malleus**  
| **Incus**  
| **Stapes**  
| **Ossicles** |

**Reference:** Basic Anatomy & Physiology Clinical Coding Instruction Manual Page 43.

9. **What is the name of the thousands of small filters in the kidneys? [1 Mark]**

| **Glomeruli or glomerulus** |


10. **In human anatomy, what is the definition of a joint? [3 Marks]**

| **A joint is the site at which any two or more bones come together.** |

11. What lines the majority of the inner surface of the sclera and absorbs light after it has passed through the retina? [1 Mark]

Choroid


12. What is the name for the intermixing of molecules of a liquid or gas so that they are equally concentrated? [1 Mark]

Diffusion


13. Name the four lobes of the cerebrum. [4 Marks]

Frontal
Occipital
Parietal
Temporal


14. What is the name given to the distal end of the abdominal aorta at which point the artery divides into the two common iliac arteries? [1 Mark]

Aortic bifurcation


15. Provide one example for each of the three types of cranial nerve. [3 Marks]

Sensory – olfactory, optic, vestibulocochlear or auditory
Motor – oculomotor, trochlear, abducent, accessory or spinal accessory, hypoglossal
Mixed – trigeminal, facial, glossopharyngeal, vagus


[E1] - Marks in Total: 31
### Section E[2] – Medical Terminology

Please be aware that spelling will be taken into account during the marking process.

Answer ALL 10 questions in this Section, writing your answers in the spaces provided.

1. To which organ does the root word ‘encephal-‘ pertain? [1 Mark]
   
   **Brain**


2. What suffix means ‘creation of an artificial opening’? [1 Mark]
   
   **-stomy**


3. Break down the term ‘dysphagia’ into its component parts and state what each part means. [4 Marks]
   
   **Dys –** Bad or abnormal  
   **Phagia –** Eating or swallowing


4. Describe the difference between the prefixes ‘ect-‘ and ‘end-‘ [2 Marks]
   
   ‘Ect-‘ means outside or outwards, ‘end-‘ means within or inwards


5. What root word is used to describe ‘pus’ or ‘pus forming’? [1 Mark]
   
   **Py-**

6. What is the suffix in ‘cholelithiasis’ and what is its meaning? [2 Marks]

-**iasis** – process or condition resulting from


7. What two prefixes mean half? [2 Marks]

- **Hemi**-
- **semi**-


8. Define the term ‘mastopexy’? [2 Mark]

- **Fixation of a breast**


9. Identify the three root words in this group. Circle your answers. [3 Marks]

<table>
<thead>
<tr>
<th>aer</th>
<th>bi</th>
<th>dys</th>
</tr>
</thead>
<tbody>
<tr>
<td>oid</td>
<td>ad</td>
<td>lip</td>
</tr>
<tr>
<td>spasm</td>
<td>cele</td>
<td>radi</td>
</tr>
</tbody>
</table>


10. What does the suffix ‘-ptosis’ mean? [1 Mark]

- **Falling or downward displacement**


[E2] - Marks in Total: 19
Section E[3] Diagrams

Precisely label the anatomical structure indicated by each line on the following two diagrams. Write your answers in the boxes below.

E 3[a] Interior view of the heart [15 Marks]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Superior vena cava</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Aortic valve</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Right atrium</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Pulmonary valve</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Right atrioventricular valve or tricuspid valve</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Inferior vena cava</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>Right ventricle</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>Aorta</td>
<td></td>
</tr>
</tbody>
</table>
E 3[b] Urinary system [13 Marks]

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Renal artery</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>Right kidney</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Inferior vena cava</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>Ureter(s)</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Bladder</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Bladder trigone</td>
<td>13</td>
</tr>
<tr>
<td>7</td>
<td>Adrenal gland(s)</td>
<td></td>
</tr>
</tbody>
</table>

END