

**THE HEARING AID COUNCIL
EXAMINATION PAPER 1
SEPT 2006(2)**

SECTION A

Answer **THREE** of the following questions:

- 1A1**
- (a) Draw a large labelled diagram of the middle ear. **7**
 - (b) Explain the functions of the ossicles **10**
 - (c) Name 3 conditions in which the ossicles are involved **3**
- 1A2**
- (a) Draw a detailed labelled diagram to show the structure of the Organ of Corti. **7**
 - (b) Explain the roles of the inner and outer hair cells. **6**
 - (c) Explain how the inner ear separates the frequency components of a complex sound. **4**
 - (d) What are the auditory consequences of the loss of outer hair cells in a particular area of the cochlea? **3**
- 1A3**
- (a) Describe the appearance of the tympanic membrane in:-
 - (i) acute otitis media **2**
 - (ii) chronic suppurative otitis media **2**
 - (iii) cholesteatoma **2**
 - (iv) tympanosclerosis **2**
 - (v) otosclerosis **2**
 - (vi) haemotympanum **2**
 - (b) What steps can be taken to avoid the introduction of infection during otoscopy. **8**

1A4

Write short notes on **four** of the following five subjects

- | | | |
|-----|------------------------------|----------|
| (a) | Noise induced hearing loss | 5 |
| (b) | Presbycusis | 5 |
| (c) | Obscure Auditory Dysfunction | 5 |
| (d) | Acoustic neuroma | 5 |
| (e) | Meniere's disease | 5 |

THE HEARING AID COUNCIL

EXAMINATION PAPER 1

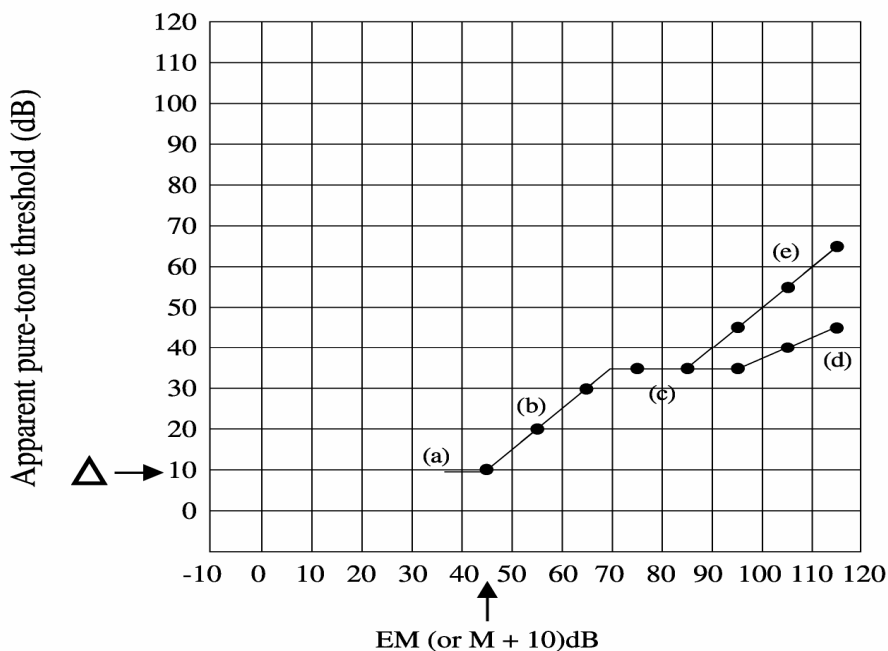
SEPT 2006(2)

SECTION B

Answer **THREE** of the following questions:

1B1

- (a) What instructions should be given to a client prior to performing masking? 2
- (b) Explain why masking may be difficult when there is a bilateral conductive hearing loss 2
- (c) When is it necessary to use the third rule of masking in pure tone audiometry? 4
- (d) Draw an audiogram showing hearing threshold levels where it would be necessary to use this rule. 2
- (e) Label and explain regions (a) to (e) of the following masking function. 5 x 2



1B2

- (a) Define the term *non-organic hearing loss* 2
- (b) What are the indications during pure tone audiometry that the client may be exhibiting a non-organic hearing loss? 5
- (c) Apart from repeating pure tone audiometry, **list** three audiometric tests for non-organic hearing loss 3
- (d) Describe the procedure of **one** of the tests you listed in part (c) above 10

1B3

Explain the following with respect to the acoustic benefits of binaural hearing

- (a) sound localisation 4
- (b) squelch effect 4
- (c) the precedence effect 4
- (d) binaural summation 4
- (e) List any further benefits of binaural hearing 4

1B4

- (a) **List** 4 acoustic and 4 non-acoustic requirements in a room to be used for sound field audiometry 8
- (b) Explain why the sound level in the unobstructed field of a small, uniformly radiating source falls by 6dB for each doubling of the distance from the source 4
- (c) Give two reasons why significant departures from this relationship might be found in practice when making measurements of the sound field of a loudspeaker in an audiometric room 2
- (d) When would you use sound field audiometry as distinct from audiometry using earphones? 6

**THE HEARING AID COUNCIL
EXAMINATION PAPER 2
SEPT 2006(2)**

SECTION A

Answer **THREE** of the following questions:

2A1

- (a) Explain why you might initially recommend a unilateral hearing aid fitting even though the client has a symmetrical hearing loss. **6**
- (b) Suggest two factors you would take into account when deciding which ear to fit. **2**
- (c) What would be the consequences for a client of aiding only one ear? **12**

2A2

- (a) What is meant by *real ear measurement*? **2**
- (b) What advantages does it have over other measures of hearing aid performance? **4**
- (c) Describe each stage of the procedure for fitting a hearing aid using typical insertion gain equipment. **10**
- (d) State TWO contra-indications for real ear measurements. **4**

2A3

Explain why the following features of a DSP hearing aid system may be beneficial:-

- (a) Multiple programmable channels. **4**
- (b) Experience or acclimatisation / adaptation levels. **4**
- (c) Directional microphones. **4**
- (d) A choice of listening programs (multi program/multi memory). **4**
- (e) A volume control. **4**

2A4

- (a) Describe the relative properties and merits of acrylic and silicon earmould materials. **4**
- (b) Explain the relative benefits of open, skeleton, shell and solid moulds? **8**
- (c) Explain how the acoustical properties are affected by venting, horning, tubing dimensions, and meatal depth on acoustical properties **8**

THE HEARING AID COUNCIL

EXAMINATION PAPER 2 SEPT 2006(2)

SECTION B

All candidates must answer question 2B1 and TWO out of the other 3 questions.

2B1 Describe the procedures carried out and information held for Clause 9 of the Code of Practice before a client is supplied with a new hearing aid. **10**

Describe the undertakings that shall be made at the time the hearing aid is supplied, to comply with Clause 19 of the Code of Practice **10**

2B2

- (a) Explain why a sudden onset severe hearing loss acquired in adult life often causes a marked handicap. **6**
- (b) Explain the consequences of having tinnitus. **8**
- (c) Explain the possible intervention strategies for relief from tinnitus. **6**

2B3

- (a) What is audiological rehabilitation? **8**
- (b) Outline how a Hearing therapist might assess the needs of a patient presenting with a hearing loss **6**
- (c) Explain how the information obtained in part (b) is used to contribute to the process of rehabilitation? **6**

2B4. How would you proceed when a client who is wearing a recently fitted, all-in-the-ear hearing aid system for the first time, complains about the following difficulties?

- (a) Their own voice sounds too loud, **(5)**
- (b) When using the telephone, the hearing aid feeds back **(5)**
- (c) Other peoples' voices are louder but not clear enough **(5)**
- (d) The aid is difficult to fit and the area around the helix is very sore **(5)**

THE HEARING AID COUNCIL

EXAMINATION PAPER 3 SEPT 2006(2)

SECTION A

Answer **FOUR** of the following five questions:

3A1

- (a) Explain why you might initially recommend a unilateral hearing aid fitting even though the client has a symmetrical hearing loss. **6**
- (b) Suggest two factors you would take into account when deciding which ear to fit. **2**
- (c) What would be the consequences for a client of aiding only one ear? **12**

3A2

- (a) What is meant by *real ear measurement*? **2**
- (b) What advantages does it have over other measures of hearing aid performance? **4**
- (c) Describe each stage of the procedure for fitting a hearing aid using a typical insertion gain equipment. **10**
- (d) State TWO contra-indications for real ear measurements. **4**

3A3

Explain why the following features of a DSP hearing aid system may be beneficial:-

- (a) Multiple programmable channels. **4**
- (b) Experience or acclimatisation / adaptation levels. **4**
- (c) Directional microphones. **4**
- (d) A choice of listening programs (multi program/multi memory). **4**
- (e) A volume control. **4**

3A4

- (a) Describe the relative properties and merits of acrylic and silicon earmould materials. **4**
- (b) Explain the relative benefits of open, skeleton, shell and solid moulds? **8**
- (c) Explain how the acoustical properties are affected by venting, horning, tubing dimensions, and meatal depth on acoustical properties **8**

3A5 How would you proceed when a client who is wearing a recently fitted, all-in the-ear hearing aid system for the first time, complains about the following difficulties?

- (a) Their own voice sounds too loud (5)
- (b) When using the telephone, the hearing aid feeds back (5)
- (c) Other peoples' voices are louder but not clear enough (5)
- (d) The aid is difficult to fit and the area around the helix is very sore (5)

**THE HEARING AID COUNCIL
EXAMINATION PAPER 3
SEPT 2006 (2)**

SECTION B

Answer **BOTH** questions:

3B1

Describe the procedures carried out and information held for Clause 9 of the Code of Practice before a client is supplied with a new hearing aid.

10

Describe the undertakings that shall be made at the time the hearing aid is supplied to comply with Clause 19 of the Code of Practice

10

3B2 With reference to the Hearing Aid Council Code of Practice answer the following;

- (a) Clause 10 of the Code of Practice enables a dispenser to visit a client at his home but only if certain conditions are observed. What basic over-riding principles are imposed on a dispenser wishing to visit a client at home? **5**
- (b) What are the rules about making survey enquiries with a view to securing business? **5**
- (c) Specify the restrictions placed on a non-medically qualified person **5**
- (d) Before clients have been supplied with hearing aids, what statement does Clause 11 (1) require that dispensers provide in writing to clients which refers to Hearing Aid Council and its Code of Practice. **5**