



**GUIDANCE NOTES AND SYLLABUS
FOR THE MALTING DIPLOMA
EXAMINATION 2008**

**The Maltsters Association of Great Britain
31b Castle Gate
Newark on Trent
Notts
NG24 1AZ**

**Telephone number: 01636 700781
Fax No : 01636 701836**

Revised May 2006

**Further copies of this document can be received by e-mail from
MAGB office.**

TABLE OF CONTENTS

	<u>PAGE</u>
GENERAL INFORMATION, CONDITIONS AND TIMETABLE	3
SYLLABUS	6
ADVICE TO CANDIDATES	8
THE PROJECT	9
THE ORAL EXAMINATION	12
THE WRITTEN EXAMINATION	12
FURTHER OBSERVATIONS AND EXAMINERS' SUGGESTIONS	14
REGISTRATION FORM	15

GENERAL INFORMATION, CONDITIONS AND TIMETABLE

1. **SUBJECT TO THERE BEING A MINIMUM OF SIX CANDIDATES,** the 17th MAGB Malting Diploma Examination will be held in the UK on Monday 10th March and Tuesday 11th March 2008 at Birmingham University. For overseas entrants, arrangements may be made to hold the examination at an approved centre in or near the candidate's country of origin, but this cannot be assumed to be the case. The examiners are currently exploring the possibility of using Video conferencing for the Oral examination for overseas candidates. Should this system be acceptable the cost of operating the video link will be added to the registration fee for each candidate involved. However if the video link is not thought to be satisfactory then the examination will be held in the UK, unless there are sufficient candidates in one location to make it more cost effective for the examiners to travel to that location, the cost of the examiners travel will be borne by those overseas candidates involved at that location. The examiners reserve the right to decide which location will be used.
Examiners also reserve the right to cap the number of examination candidates to a maximum of 20 people.
2. This International Examination, which will be in English, will be open to both home and overseas candidates who have completed at least 3 years in the malting industry at the time of registration in work closely related to technical matters. No formal qualifications will be required as qualification for entry.
3. **The entrance fee for the examination for employees of MAGB members will be £110 plus VAT per candidate, with a registration fee of £110 plus VAT. For all other candidates, the entry fee will be £220 plus VAT and the registration fee £220 plus VAT, which will not be recoverable for overseas candidates.**
4. The final date for registration with the MAGB by candidates wishing to take the examination, will be Friday 27th October 2006
5. Each candidate must be sponsored by a person normally within his/her own company, who will be approved by the MAGB. The name of the sponsor must be declared at the time of registration. The sponsor will act as the candidate's adviser and assist him/her in his/her preparation for the examination and in the selection of his/her subject for the written report (see paragraph 8).

Sponsors will be assisted in their task by receiving a Sponsor's guide, once the candidate has been accepted by the MAGB, or by prior application of the Sponsor to the MAGB.

Depending on the candidate's previous experience, it is strongly recommended that a training programme is formulated to ensure a comprehensive coverage of malting. The sponsor will be required to certify that the candidate has completed at least 3 years in the malting industry at the time of registration. The candidate's relevant work experience and responsibilities must be listed

and certified by his/her sponsor. A log book or diary in which the candidate records this experience, and the periods spent in each department, should be attested by the sponsor. It is strongly recommended that this experience should include a minimum time in the following departments:-

Barley purchasing	1 month
Barley intake	2 months
Barley handling and management	3 months
Malt processing	6 months
Malt handling and despatch	2 months
Quality control and laboratory	3 months
Engineering services	3 months

In addition, some experience should be gained at a brewery and distillery.

6. The standard of the examination will be high, and will be confined to practical and theoretical aspects of malting including a basic knowledge of the uses of malt.
7. The examination will consist of a 25 minute oral examination, two written sections, each of 3 hours duration, and a practical project for which a written project report is required. One written section will be biased towards technical questions, and the other towards the management aspects of malting.
8. Title and abstract/synopsis for the Project along with the candidates work experience log must be submitted for approval by Friday 27th October 2006 and must include a 100-150 word synopsis of the proposed work. This must be submitted to the MAGB with the completed registration application form. The written project itself must be presented by Friday 26th October 2007.
9. The other sections of the examination will be held on Monday 10th and Tuesday 11th March 2008 at the Lucas Centre, Birmingham University, UK.
10. The two written examinations will account for 50% of the total marks. The oral examination and the Project report will account for 25% each. All written work from overseas candidates will be sent to the UK for assessment. Likewise, the oral, which will be recorded, will be sent for appraisal.

Candidates must achieve a pass mark in each section of the examination to be successful.

Candidates who clearly fail their projects will not be allowed to sit the written or oral part of the examination.

11. The Maltsters' Association of Great Britain will award a certificate of competence to successful candidates. This qualification will be 'The Malting Diploma' awarded by the MAGB, and holders are entitled to use the designation 'Dipl.Malt' (Diploma Maltster). In addition, those candidates achieving a sufficiently high mark in all sections of the examination will be awarded a Pass with Distinction. There may also be a single special award,

'The Walter Hyde Award for Distinction', given at the discretion of the examiners, where there is a candidate who has passed the examination with appropriate distinction.

12. **The MAGB is unable to offer any form of instruction in preparation for this examination.** It is hoped that candidates will obtain this during the course of their employment. Sponsors will be expected to ensure that candidates have the opportunity to receive instruction in all departments of practical and theoretical malting and are properly advised on how to prepare for the examination. A printed "Guide to Sponsors" will be sent to each sponsor of candidates accepted for the examination.

13. **Queries about results**

Drawing up the list of results is the responsibility of the Examination Board (EB) on behalf of The Maltsters Association of Great Britain (MAGB). The EB exercises judgement as to whether or not each candidate has reached the standard required to qualify for the award of a Diploma and this decision is final in that there is no right of appeal to any other body outside MAGB. At each stage of the award process, careful checks are made to ensure that the EB makes decisions on the basis of full and accurate information.

If a candidate thinks that an error has been made in a result, he/she can query it with the Director General of the MAGB. Before doing this, the candidate should discuss the result with his/her sponsor. If the candidate still wishes to pursue the query, he/she should write a brief letter to the MAGB Director General within three weeks of the date of notification of the result in question.

It is not possible to arrange for scripts to be re-marked, for information about examination performance to be provided (other than that information contained in the letter notifying the candidate of the result), or for previously undisclosed special circumstances to be considered.

All queries will be thoroughly investigated, and if any error comes to light, the matter will be referred to the EB. A reply will be sent to the candidate as soon as possible.

13a) **Formal appeals**

Should a candidate fail, and after making a query (as above) still be dissatisfied with the MAGB decision, appeal may be made to the Chairman of the Technical Committee through the MAGB Director General. Any such detailed applications must be made within three weeks of the date of reply to the original query.

Appeal can only be made against a 'fail' result (project or overall). The powers of the Chairman of the Technical Committee extend only to establishing that results have been determined in the proper manner, not to changing the decision of the EB, since the EB has been empowered to take such decisions by the MAGB.

TIME TABLE

•	Latest date for registration of candidates including synopsis of candidates proposed project along with the candidates work experience log.	Friday 27 th October 2006
•	Return of completed projects	Friday 26 th October 2007
•	Return of sponsor's updated declaration of candidate's work experience and responsibilities NB Candidates may be excluded from the written exam if this is not received	Friday 4 th January 2008
•	Oral and written examinations take place	Monday 10 th March 2008 Tuesday 11 th March 2008

SYLLABUS

1. Work Experience and Training

Candidates preparing themselves for this examination must aim to acquire a basic theoretical and full practical knowledge of all aspects of malting. They will be expected to demonstrate extensive understanding and experience of all practical aspects of the malting process and related operations; they will also be expected to possess a basic understanding of the commercial, scientific and engineering aspects of malting. (See suggested list of work experience on page 4).

Candidates are recommended to consult the standard text books which deal with the malting and related processes and to keep in touch with the more practical papers, which appear in the various journals.

Whilst the examination is designed to test the candidate's practical knowledge of malting, it is emphasised that the candidate should demonstrate through the written project report and in essay-type answers to questions, the capacity to construct a reasoned, logical and literate written report. This may demand particular effort and training for those candidates with limited experience of written examinations.

2. Project

Candidates will be required (in conjunction with their sponsors) to select a topic for a project, and send in a 100-150 word synopsis of the proposed project with their examination application form. The examiners will quickly advise each candidate if the proposed project is an acceptable one, and if it is, then the candidate must write a 5,000 to 10,000 word project report. The project report must be presented in duplicate 3 months before taking the written examination. Considerable care should be taken in selecting the topic which should illustrate the candidate's detailed involvement in a practical aspect of malting, and sponsors should offer guidance on this selection. Although reference to standard text books and journals is appropriate, the candidate must make clear details of his/her own involvement in the reported work. This report will not be published, but the

candidate must be free to talk about his/her selected topic at the oral examination. (see pages 9, 10,11 and 12 of this syllabus).

The number of words used in the project report should be prominently displayed on the title page.

Candidates are advised to have their projects proof-read before submitting them.

3. **Examinations**

The following syllabus is intended to illustrate the scope of the examination, but emphasis has been placed on those elements of the syllabus which constitute 'core' knowledge by *italicising* such subjects. Candidates should possess a full understanding of these 'core' subjects with specific reference to the UK malting industry. Outside the core subjects, candidates should be familiar with many of the more specialised subject areas listed. In the examinations, compulsory questions will be restricted to the 'core' knowledge, but where there is a choice of questions, the whole syllabus will be tested.

A) **Raw Materials**

A knowledge of *malting barley varieties*, the basic factors governing the breeding and growing of malting barley, and a basic knowledge of other cereals. *Barley purchasing and acceptance/rejection of deliveries, intake, drying, screening and storage; infestation precautions and treatments; principles of barley analyses and their interpretation; dormancy; micro-malting tests.*

B) **The Malting Process**

Steeping, including water quality and temperatures, aeration, rest periods, steep-out moistures, additives and processing aids, germination techniques including control of moisture and of air temperature, volume and humidity, kilning procedures and variations for different malt qualities, fuels used for kilning, control of malt analysis and malting loss by variation in processing techniques, coloured and special malts, types of malting plant, machinery and conveyors, air conditioning systems.

C) **Malt**

De-culming, screening, weighing and sampling, grading, storage and stock control; despatch in bags and bulk; recommended methods of malt analyses, specification, interpretation of malt analysis; quality assurance and quality control; use of statistical techniques, co-products handling.

D) **Services**

Malting services such as *water, electricity, fuel and effluent; energy conservation*; maintenance, instrumentation automation and control systems; *basic understanding of capital and operational costs; project appraisal*; distribution.

E) **Hazards and Safety in Malting**

Understanding of health and safety issues especially confined spaces, dust and explosion risk. Safe working procedures, COSHH,

F) **Food Safety**

HACCP, cleaning and plant hygiene

G) **Uses**

General understanding of the brewing and distilling processes, including *reasons for specifications of certain malt properties* and diastatic and non-diastatic malt extracts; the influence of malt quality on brewhouse performance, with particular emphasis on mashing, separation techniques, and wort quality, uses of malt and malt products within the food industry.

H) **General**

A knowledge and background of the international malting industry and its markets; industry economics; producers and users; *barley supply and demand* and political factors (CAP, WTO) affecting world trade in barley and malt.

I) **Oral Examination**

You will be questioned on your project report and on the general syllabus outlined above (See pages 11 and 12).

ADVICE TO CANDIDATES

1. **Syllabus**

Carefully study this booklet which includes the Syllabus and General Information and Conditions (revised May 2006).

Note that the guidelines given are closely matched by the marking system used by the examiners, so candidates are urged to read them closely.

The Syllabus is wide ranging and designed to cover all aspects of technical malting.

2. **Experience required**

You are strongly recommended to gain working experience in all departments listed on pages 3 and 4 in point 5, General Information. The minimum times stated are for your guidance but it is expected that such minimum useful experience will be necessary as a background for the examination.

Note the importance of gaining a basic understanding of Brewing and Distilling.

If you are a Brewer or Distiller Maltster you must be familiar with the techniques, practices, quality requirements and analytical methods of the Sales Maltster and vice-versa.

It is the Examiners' experience that candidates who fail generally do so because of a lack of breadth of experience across the whole field of technical malting.

3. **Training**

This must be provided or organised by your Company. The MAGB does not organise any training in relation to the examination.

The candidate and his sponsor must ensure the candidate is aware of the major factors affecting the UK malting industry.

Do take up invitations to learn about other malting plants and methods other than your own. If you cannot make your own arrangements for exchange visits, contact the MAGB office, who will offer assistance.

4. **Timetable**

You are required to register for the examination by the Friday 27th October 2006. At the end of this Syllabus is an application form for this purpose which requires a countersignature from your sponsor. The sponsor must certify that you have had over three years work experience in the industry, at the time of registration, of a quality sufficient to enable you to undertake the examination.

Note that you must include the title of your project on your application form and that an abstract/synopsis of the project must also be attached to the form before it is returned. The examiners will then advise you whether or not your outlined project is a suitable one.

The final written project (in duplicate) must be submitted by Friday 26th October 2007

A separate, updated, detailed attested log of work experience must be submitted to the MAGB by your sponsor no later than Friday 4th January 2008. **Note that you may be excluded from the written examination if this is not received.**

A Suggestion

Candidates are advised to refresh their exam technique, by providing *written* answers to questions for proof reading by their sponsors prior to the examination, and by rehearsing for the oral examination within their own organisations. It is often noticed that candidates are not fully prepared to write extensively over a three hour period in the exam, which is reflected in the quality of their presentation.

THE PROJECT

1. **Selection of Topic**

a) Considerable care should be taken in selecting the topic which:

- i) should illustrate the candidate's detailed involvement in a practical aspect of malting, and
- ii) can be properly and logically discussed in 5,000 (minimum) to 10,000 (maximum) words.

Before starting your project, make sure you have a clear idea of the overall scope of the subject you intend to cover.

b) Topics are of two types:

- i) Laboratory based investigations with observations, results, discussions and clearly presented conclusions
- ii) In-plant investigations dealing with various aspects of malting plant and processing procedures with which the candidate has had close practical involvement.

Note that while administrative aspects of malting and Malting Management could play a contributing role in the project, they should not assume a dominant role.

2. Structure of the Report

Whatever the study it must be logically planned:

- a) Introduce the planned investigation and clearly outline the scope of the project.
- b) Review briefly current work or knowledge.
- c) Describe the experiments and your personal involvement.
- d) Record the results.
- e) Discuss the results and give a clear list and description of all relevant conclusions.
- f) References to publications or external reports must be made.
- g) The report should contain, in its opening pages, an abstract/summary of length 300-500 words only, outlining the project's aims, and main conclusions.
- h) The completed report should display on the title page the total word count.

3. Planning the Work

- a) It is appreciated that time is limited so planning is vital.
- b) Experimental trials should be done in duplicate if possible.
- c) Give some thought to precision of experimental technique and accuracy of results, and explain the statistical significance of your finding.
- d) Be careful with words like precision and significance; they have real meaning in investigational work.

- e) Plant scale trials require even more careful planning to obtain satisfactory results.
- f) If a review type study is planned do not simply present the established views from the literature - show how you have been practically involved in testing some practices of malting.
- g) Show that you have an understanding of the financial implications of your work giving orders of cost where appropriate and relevant. Precise financial details may be confidential to your Company and are not necessary.

4. **Presenting the Work**

- a) **The project should not show the candidates name or company identification. The author should simply be shown under the unique coded reference that will be issued by the MAGB for each candidate's project.**
- b) The report should be typed, preferably using double spacing. Check the typing thoroughly (do not leave it to the typist!)
- c) Provide a clear index at the beginning. Give the sections bold headings so the work can be followed easily. Number each page consecutively.
- d) Where appropriate use tables and figures (charts, graphs and photographs, scanned images etc) to present results,. All tables and figures should be correctly numbered and clearly labelled. Ensure that all such figures etc are relevant and referred to in the text.
- e) Remember that the emphasis should be on the practical aspects of malting.
- f) Make sure the report is grammatically sound and that all expressions, equations etc. you use are correct and can be justified.
- g) Ensure all abbreviations are clearly explained in the text.
- h) Present the report in a binder that does not fall apart.
- i) **Ensure that DUPLICATE copies of the report arrive at the MAGB Office no later than Friday 26th October 2007.**

THE ORAL EXAMINATION

Date

Afternoon of 10th/11th March 2008

At Lucas Institute, Birmingham University, UK.

Duration

Approximately 25 minutes

Format:

- a) You will be asked about your selected topic and project report. Make sure you have not included anything you cannot explain or justify.
- b) You will be asked questions about any aspect of the Syllabus and your own work experience. In particular, it will be an opportunity for you to demonstrate to the Examiners your knowledge in your non-specialist areas.
- c) The interview will be recorded, for review purposes.

TIPS FOR CANDIDATES

- a) Do make sure you know your own working practices and regimes inside out.
- b) Collect your thoughts for a moment before answering the question.
- c) Do not waffle, answer the question directly.
- d) If you do not understand the question make this clear to the Examiner, who will repeat and re-phrase it.

THE WRITTEN EXAMINATION

Date

Morning of Monday 10th and Tuesday 11th March 2008

At the Lucas Institute, Birmingham University, UK.

Duration

There are two 3-hour written papers

Format

Paper 1 contains 3 Sections. Section A & B will be allocated a total of one and a half hours, and will then be collected, there will be a short break of 15 minutes followed by Section C for another one and a half hours. Paper 2 is a 3 hour examination, in two parts, section D and E. There will be no interval between papers.

1. **PAPER 1** - two sessions of one and a half hours each

Section A

Consists of 15 multiple choice or short answer questions, all of which are compulsory.

Suggested time allocation: 20 minutes

Marks : 30

Section B

Is likely to consist of 10 short questions, 7 of which would have to be attempted.

Suggested time allocation: 70 minutes

Marks : 35

Section C

Consists of 5 essay-type questions. One of these will be compulsory, and a further two will have to be attempted, making a total of three.

Suggested time allocation: 90 minutes

Marks : 45

2. **PAPER 2** - 3 hour session.

Section D

Is likely to consist of 12 short questions, 9 of which would have to be attempted.

Suggested time allocation: 90 minutes

Marks : 45

Section E

As Section C

3. The total marks possible are 200 (110 on Paper 1 and 90 on Paper 2).

4. **COMMENTS**

a) Candidates may answer each section in the order of their choice, but it is suggested that the multiple choice and shorter questions are answered first so that if spare time is available, more effort can be directed to the essay questions which account for almost half the marks.

b) Basic Pocket calculators should be brought for use in some of the questions. Hand held computers/databases will not be permitted.

c) **Answers to all written papers should be in black ink.**

d) The written examinations will be on consecutive days, with the candidates' oral in the afternoon of either 10th or 11th March 2008

- e) Past examination questions will be available on the MAGB website. It is strongly recommended that candidates use these as practise questions. Past papers will only be available to those taking the Diploma examinations.*

FURTHER OBSERVATIONS AND EXAMINERS' SUGGESTIONS

1. Examiners have found that many answers to previous papers have been poorly constructed and presented in muddled sentences. Answers should be roughly mapped out beforehand so as to cover all aspects of the question. **Marks will be deducted for poor standards of writing and presentation.**
2. Answers should be concise and not padded. Cover as much varied detail as possible and do not write endless paragraphs about one small facet of the topic.
3. Where a question is not directly associated with malting, try to relate your answer to show its significance to the industry.
4. Practise answering past questions. Read the question, consult reference literature and roughly outline an answer. Then sit down and write and complete the answer within the permitted time span on the paper.
5. Try to preface answers with a short introduction (especially in Section C and E) and make the final paragraph a concise summary.
6. Too much information presented in previous papers was superficial and inaccurate. Examiners are not looking for fine detail of a category that only a specialist would be expected to understand and padding out answers with such detail will not gain marks. Answers should reveal facts that are relevant to the practical solution or understanding of a problem and their significance to the industry should be explained.

MAGB MALTING DIPLOMA EXAMINATION - 2008
REGISTRATION FORM

FULL NAME OF CANDIDATE	
POSITION HELD	
NAME AND ADDRESS OF COMPANY	
TITLE OF SELECTED TOPIC FOR WRITTEN REPORT (A synopsis/abstract must also be enclosed)	
CANDIDATE'S SIGNATURE	
DATE	
NAME AND ADDRESS OF SPONSOR	

DECLARATION BY SPONSOR:

"I certify that the above named candidate has already completed at least 3 years in the malting industry at the time of registration, in work closely related to practical malting matters, and the written record referred to in paragraph 5 on page 3 of the General Information and Conditions, will be returned with the registration form and the updated version by no later than Friday 4th January 2008"

SPONSOR'S SIGNATURE

DATE

FEES	MAGB MEMBERS	OTHERS
ENTRANCE FEE (plus VAT)	£ 110	£ 220
REGISTRATION FEE (plus VAT)	£ 110	£ 220
TOTAL FEE	£ 220	£ 440

VAT REGISTRATION NO 243 6241 80

Return to the Administrator, MAGB, 31b Castle Gate, Newark, Notts NG24 1AZ.

DO NOT SEND PAYMENT WITH THIS APPLICATION.

IF YOUR APPLICATION IS ACCEPTED BY THE EXAMINERS, THEN YOUR COMPANY WILL BE INVOICED IN DUE COURSE BY THE MAGB FOR THE ENTRANCE AND REGISTRATION FEES.

FINAL DATE FOR REGISTRATION: FRIDAY, 27th OCTOBER 2006