



**SECOND REGIONAL CONFERENCE ON MALARIA ERADICATION**

**ADDIS ABABA, 16 - 21 NOVEMBER 1959**

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THE TRAINING SYSTEM AND CURRICULA OF THE  
REGIONAL MALARIA ERADICATION TRAINING CENTRE, CAIRO, UAR.

by

Dr. A. R. Zahar  
Senior WHO Adviser

The success of a malaria eradication programme depends largely upon the quality and technical ability of the personnel involved. The proper utilization of funds and materials remains the responsibility of persons using them and, in order to avoid loss of time and waste of money, careful recruitment of personnel and provision of adequate training as well as the maintenance of their efficiency standards, are all important.

Many countries of the Eastern Mediterranean Region joined the world march towards malaria eradication. It is then obvious that the need of trained personnel in those countries has greatly multiplied. It seems that not many countries in the Eastern Mediterranean have a regular training programme. This urged the need for the creation of a regional training centre to provide training on international level to professional and non-professional personnel selected from various countries of the region. With the co-operation of the Government of the UAR and WHO, a mutual agreement concerning the establishment of the Regional Malaria Eradication Training Centre in Cairo, to serve the countries of the Eastern Mediterranean Region, was formulated in a Plan of Operation which was signed on the 13 December 1958. The Ministry of Public Health (Egypt) UAR, offered premises in the Insect Control Laboratories, Dokki, Cairo to accommodate the Regional Training Centre. The Plan designed three courses to be given each year by the Training Centre:

Spring Course: Junior, to be given in both English and Arabic, starting at the beginning of February each year and terminating at the end of April.

Summer Course: Junior, to be given in both English and Arabic, starting at the beginning of June each year and terminating at the end of August.

Autumn Course: Senior, to be given in English and Arabic, starting at the beginning of October and terminating at the end of December.

Non-professional candidates holding secondary school certificate or primary school certificate plus five years experience in malaria service, would be the minimum requirements for the admission to the Junior Courses. For the Senior Course, professional personnel such as medical officers, engineers or persons holding university qualifications in biological science, are accepted.

A model field training area was provided by the Government to fulfil field training requirements.

The Training Centre started its activities on February 1st 1959 and has accomplished two Junior Courses which produced 36 trainees as shown later. At present the Centre is engaged in the training of the first Senior Course which started on the 3rd October and is expected to terminate by the beginning of January 1960.

This paper provides information on the curricula given in the Regional Training Centre and emphasizes the system of training adopted in this Centre. The subject matters given in this Training Centre are well known but a stress is made in this paper to give an idea how the courses are arranged in the way of sequence of events. In drawing these notes, it is felt more beneficial to let the reader know about the operation of the training courses, and the response of the teaching staff as well as that of the trainees themselves, both of which will guide the future sequence of events.

#### THE CURRICULUM

For convenience, the curriculum defined in this paper is that of the Senior Course. The Junior Courses are given on the same principles but adjusted to the abilities and qualifications of the trainees. The curricula given in the Training Centre include four major subjects:

1. Entomology
2. Malariology, which includes - parasitology  
- clinical aspects  
- anti-malarial drugs  
- malaria epidemiology
3. Insecticides, equipment, and spraying technique.
4. Malaria Eradication, its theoretical and practical aspects.

In addition to the four major subjects there are three subjects indispensable to all malaria eradication workers, namely:

1. Health Education
2. Statistics
3. Administration

#### OPERATION OF THE COURSE

##### 1. Introductory Note

The training session usually starts with introductory lectures mainly devoted to orientation of trainees in regard to attendance, instructions and system of training, etc. Candidates are also briefed on the history of malaria and the development of the world wide eradication of malaria. The objectives of the training are fully explained, and the future contributions expected from the candidates in their own countries, after completion of their training, is stressed. Emphasis is laid on their future application of the knowledge they acquire in developing malaria eradication programmes and in establishing in-service training. Faith, self-confidence and perseverance, qualities required in every malaria eradication field worker, are inculcated in their minds at the start of the course and throughout their training period. A stress is also made from the start as to the importance of kits, supplies and equipment needed for each operation. At the onset of each practical study, trainees receive blank forms in which they are requested to register all equipment and supplies needed for a specific operation. In these forms they have to record also the specifications of each item, its approximate price and whether it is locally made or imported. Our experience shows that this gives them a better understanding of the various operations and breeds in them self-confidence as to their proficiency in planning.

##### 2. Definition of the General Objectives of the Training:

The Senior Course aims at qualifying chiefs of malaria eradication units or stations to direct the various operations according to the plan laid. The Junior Course aims at qualifying the category of personnel to work as assistants to chiefs of malaria eradication units or as sector chiefs. It should be emphasized that the present courses are not meant to qualify a candidate to work as an Entomologist, or as a Parasitologist or even as a Microscopist since their specialized training is outside the scope of these courses. Quite a few years might be needed for a person who wishes to specialize in Parasitology or Entomology. The real function expected from the graduates of the Training Centre is that they receive comprehensive knowledge on the various malaria eradication activities and thus could effectively contribute to the perfection of the procedures and the efficiency of the various malaria eradication personnel. The training of Microscopists, Entomological Assistants, Squad Leaders and Surveillance Agents has to be done at national level.

3. ENTOMOLOGY COURSE: (86 hours: 24 hours theoretical, 40 hours practical, 22 hours field practice.)

The objective of this study is to provide a general outline of Entomology that affords a short-cut approach to the most relevant biological and ecological knowledge on malaria vectors involved in malaria transmission. The proper performance of various entomological techniques related to malaria eradication form an important practical objective.

Trainees receive introductory classes covering the important characteristics of Phylum Arthropoda with a stress on the diagnostic characters of Class Insecta, ending with a general background on the external structure of a typical insect and metamorphosis. This is followed by a brief knowledge on the classification of Order Diptera and the characteristics of Fam. Culicidae. Further, the internal anatomy of mosquitoes with special reference to the extrinsic malaria parasite cycle, is given.

The Soviet technique for determination of the physiological age of malaria vectors, age composition of Anopheles population, the epidemiological significance of the dangerous age of adult female malaria vectors and the utilization of the study of age composition in the evaluation of malaria control measures, has been introduced to the Senior Course as a new subject matter in entomology.

The Entomological study also covers the important aspects of resistance of Anophelines to insecticides, stressing the care that should be taken in susceptibility testing in order to obtain reliable data. In every aspect of the Entomological study, a demonstration is usually arranged, followed by a period in which the trainees are offered a chance to practise. At the end of the entomological course, trainees are guided in the field to handle the equipment needed in entomological techniques. These two days of field activity are considered as an introduction to field practice which is expounded later in the fourth part of the curriculum, i.e. Malaria Eradication, when the trainees carry out entomological field studies during the various phases of malaria eradication programmes including the preparatory phase.

4. STATISTICS COURSE: (20 Hours for Senior Course).

It was decided that the appropriate place for the statistical course in the curriculum would be immediately following entomology. This enables trainees to compile the foregoing entomological data in a statistical form, and prepare them for their future epidemiological studies. The statistical subject matters cover only the basic fundamentals on sampling and the problems pertaining to it. Compilation, tabulation and elementary analysis of data and an approach to the statistical significance are also given. The course also instructs the graphical presentation needed in the epidemiological investigations and in susceptibility tests. It may be emphasized that with this knowledge the trainees can develop a statistical thinking which will lead them to better understanding of the data collected. In the Junior Curriculum the statistics course is much reduced, and is given under the name of elementary mathematics. As it is actually a refreshing course in mathematics that proceeds to sampling, compilation and tabulation of data with an outline on the statistical measurements.

## 5. MALARIOLOGY:

### 5.1 Parasitology (10 lectures and 44 hours practical)

This course deals with the human Plasmodia, their morphology and life cycle. The objective of the parasitological study is to develop knowledge on the characteristics of the human Plasmodia, the equipment needed for blood collections, staining and identification, as well as on the procedures to check the work of microscopists. The parasitology course starts with differentiation of blood constituents and the diagnostic characteristics of the four human malaria parasites. Practical training covers the use of oil immersion in blood examination, slide cleaning and blood sampling. In the practical, too, trainees are acquainted with the staining techniques, the use of various stains with critical instructions, to avoid faulty procedures that would reflect on results of microscopical verification of blood examination for malaria parasites. A great stress is laid on the importance of the kit needed in blood collection, staining and related laboratory procedures. Trainees are given ample opportunity to identify the various stages of the four species of Plasmodia parasites. Ten lectures are devoted for the above parasitological study in addition to 44 hours of practical training.

### 5.2 Anti-Malaria Drugs: (6 hours)

The objective of this series of lectures is to direct the trainee to the simplest form of classification of anti-malaria drugs. In a simple classification the action of the various groups of drugs on the various species and stages of the parasites is defined. Thus it would be easy for the trainee to select the appropriate drugs which would meet the requirements for suppressing or the radical cure of infection or rendering the subject non-infective to the mosquito. The dosages are simplified also in table form that can provide a practical orientation to the dosages recommended for the various age groups. The toxicity of each drug, and the possibility of development of drug resistance in malaria parasites are also given.

### 5.3 Malaria Epidemiology (18 hours).

The trainees are thoroughly instructed on the role played by various epidemiological factors and their relative importance in the various phases of malaria eradication: in the initial surveys, the evaluation of spraying operations and, finally, in surveillance. Examples are given to illustrate the failures due to lack of proper epidemiological approach and the various problems that might occur in malaria eradication programmes. Eighteen hours are devoted to covering the study of epidemiology.

Before the second part of the curriculum comes to a close, two field days are devoted for acquainting trainees with the malariometric surveys and blood sampling technique under field conditions. This prepares them for a further intensive field practice during the last part of the curriculum.

## 6. INSECTICIDES, EQUIPMENT AND SPRAYING

An introductory lecture is given to orientate trainees on the various methods and technique which were used in the past for malaria control and those which are recommended at present in malaria eradication programmes; with the appropriate evaluation of each method.

### 6 Insecticides ( 8 Hours: (4 lectures and 4 practical).

The definition, types, chemistry, effect on insects, formulations and dilutions of all the most important old insecticides such as Paris Green and Pyrethrum and the commonly used new insecticides such as DDT, BHC, Dieldrin and Organophosphorous compounds with the relevant knowledge on their specifications, toxicity to man and animals as well as the usual precautionary measures.

The biological assessment of the residual toxicity of the insecticides and the factors that affect the duration of this residual effect, such as scripton, given in two hours, and a practical demonstration of bioassay is further given in four hours.

### 6.2 Equipment - (6 hours lectures and 18 hours practical in the field)

The emphasis is laid on guiding trainees to understand the proper operation of the spraying equipment, the detection of defects, the adjustment and repairs that could be made promptly under field conditions and, finally, the proper maintenance of the equipment. The trainees are also instructed on the necessity of adequate supplies of spare parts.

### 6.3 Spraying Technique (2 Hours lectures and 24 Hours training - practice)

This is intended as a prelude to the later comprehensive practice on spraying technique that is given in the fourth section of the curricula (see Annex II).

It was found convenient to link the spraying technique with the preceding course on insecticides and equipment. Two hours lecture is intended to emphasize the objectives, principles and specifications of spraying. A period of 24 hours is exclusively devoted to this initial training practice given with this part of the curriculum. It starts with instructions on the correct carriage of the sprayer, adjustment of the distance with the aid of wooden extensions and practice on the speed of spraying. Further training extends to adjustment of the side step and avoidance of overlapping. This is done within the premises of the Training Centre, and water is used instead of an insecticide for this preliminary training. Then trainees are allowed to practise with DDT water-suspension inside houses.

It was found necessary to include larviciding in the curriculum by devoting two hours for the theoretical and two hours for practical demonstration, as it may be required in special circumstances particularly in countries where malaria vectors exhibit partial exophily or in urban areas.

## 7. MALARIA ERADICATION: (21 working days)

The study of Malaria Eradication in theory and in practice is treated as a subject of special identity which is covered in 21 working days.

### 7.1 Theoretical Course

It starts with introductory lectures, the object of which is to give a broad understanding of theory, principles and advantages over control.

Further it is necessary to orient trainees on the sequence of events in a malaria eradication programme. This is done in two hours lecture by which the four phases are outlined. Now, trainees become anxious to know how the field spraying operations are evaluated; what are the methods to assess the cessation of malaria transmission; when spraying can be discontinued; how is the surveillance operation organized, and when could malaria be declared eradicated.

Related to the above, the theoretical study proceeds to problems that may be encountered in a malaria eradication campaign, those related to human and mosquito habits and responses and the means to overcome these problems. Twelve hours of Health Education studies are included in this course to project the importance to these studies in all understandings related to the implementation of malaria eradication programmes in its various phases.

In this new and vital course, four hours are devoted to stimulate trainees to ask any questions related to the implementation of malaria eradication programmes.

This is followed by a study on the Organizational Pattern, the backing of the State by legislative measures, and the various technical staff needed and the facilities for their training.

### 7.2 Field Practice

Our experience shows that trainees should develop a practical sense towards the sequence of events of the programme; that is to say, to pass through the four phases of malaria eradication in field comprehensive practice. To this end, they must be prepared again by what should be done in every phase before they are assigned to it in the field. This is usually envisaged by a course of instructions in the day preceding each phase of field practice. The few days spent in field initial orientation during the early part of the course would have prepared them by now to an intensive field practice at this stage. Now they go through the preparatory phase including preliminary surveys, geographical reconnaissance etc., passing to the attack phase to develop spraying proficiency, until the consolidation stage is reached with its epidemiological and entomological and entomological surveillance activities.

In the Junior Course, it was felt that a high proficiency in spraying operations has to be developed, hence more hours for spraying practice are devoted for Junior trainees. It was felt also that as they will undertake the burden of training of spraymen, it is important to let them have an opportunity of showing their abilities in conveying their experience by training fresh labourers in their field practice. Six working days are devoted for such practice, during which the fresh labourers selected from villages of the field training area are assigned to the trainees to be trained on spraying techniques until they perfect them. The period of six days, however, showed that fresh labourers would need about 3 - 4 more working days to bring their standard to perfection.

### 7.3 Administration and Finance

All the administrative and managerial procedures in malaria eradication programmes, although are referred to partly in the previously mentioned courses are covered in detail. Sound administrative procedures connected with personnel management, transport operations, control of supplies, etc. as well as principles in accountancy, budget preparations, costing of the various operations are covered in this course.

### 8. EXAMINATIONS AND GROUP DISCUSSIONS

At the end of each part of the curriculum the trainees have to undertake written, practical and oral examinations. These are followed by a group discussion to point out the errors made and the correct answers as well to encourage them to express themselves in open discussions.

At the end of the course, an examination, (written, practical and oral) is undertaken for one week. This is also followed by a group discussion in which the trainees are asked to fill in prepared questionnaires on the value and the defects of the course.

Certificates bearing the trainees' merits in the final examinations are dispatched afterwards to the trainees through the proper channels.

### 9. TRAINING ACTIVITIES IN 1959

The training Centre has given training to the following personnel since it was opened on 1st February 1959.

#### February - May 1959

Jordan	2	)	
Libya	3	)	
Saudi Arabia	4	)	Total 18
Sudan	3	)	
United Arab Republic (Egypt)	6	)	



June - August 1959

Jordan	1	)	
Saudi Arabia	2	)	
Somalia	2	)	Total 18
United Arab		)	
Republic (Egypt)	13	)	

The present Senior Course which started on 3 October and is expected to terminate on 5 January consists of the following trainees:

From EMR Countries

Pakistan	3	)	
Sudan	1	)	Total 21
United Arab		)	
Republic (Egypt)	17	)	

TIME DISTRIBUTION OF THE SENIOR COURSE

TOTAL WORK-DAYS 81 - TOTAL WORK-HOURS 500

	LECTURES / PRACT. / FIELD			EXAMINATIONS				TOTAL
				WRITTEN	PRACT.	FIELD	ORAL	
Introductory	6							6
<u>PART I: Entomology</u>	24	40	22					86
Exam Part I				2	2	-	2	6
<u>PART II: Malariology</u>								
Parasitology	10	44						54
Anti Malarials	6							6
Epidemiology	18	16						34
Exam Part II				2	2	-	2	6
<u>PART III</u>								
Insecticides	8							8
Spraying and Equipment	6	16	24					46
Exam Part III				2	-	-	2	4
<u>PART IV: Mal. Eradication</u>								
Preparatory Phase	18							18
Geog. Reconnaissance	4		20					24
Attack Phase	10	8	36					54
Consolidation Phase	8		16					24
Administration	18							18
Health Education	12							16
Statistics	20							20
Final Examinations and Group Discussion				6	4	24	12	46
<b>TOTAL</b>	<b>178</b>	<b>112</b>	<b>148</b>	<b>12</b>	<b>8</b>	<b>24</b>	<b>18</b>	<b>500</b>

TIME TABLE

FOR

THE SENIOR COURSE

October - December 1959

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THE REGIONAL MALARIA ERADICATION  
TRAINING CENTRE

DOKKI - CAIRO.

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OCTOBER - 5 JANUARY 1960

PART I - ENTOMOLOGY

First Week ( )

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 3rd Oct	<u>Lecture:</u> - Introduction forms - Opening of the first senior training session - Malaria, its history, ravages, public health and economic importance. - World move towards Malaria Eradication - Review of malaria status in the E.M.R.	<u>Lecture:</u> <u>Training</u> - the need for training objectives - levels of training - systems of training RIETC - Instructions - Film Show on Malaria	<u>Lecture Demonstration:</u> <u>Optical Equipment.</u> - The hand lens, simple microscope, compound microscope, binoculars - Types, construction, magnification, use, maintenance including storage - Common mistakes in use, transportati
	Dr. F. Sobky	Dr. A.R. Zahar	Dr. A.R. Zahar
Sun 4th Oct	<u>Lecture:</u> Characteristics of Phylum Arthropoda and its Medical importance. - characteristics of class Insecta - External structure of a typical insect (locust) - Insect metamorphosis - characteristics of Order Diptera (Lantern slides projection) ***	<u>Practical:</u> - use of optical equipment with examples of classes of Arthropoda Crayfish, cyclops, centipedes, ticks and mites - Examples of medically important Orders of Class Insecta (Lantern slides projection)***	<u>Practical:</u> - Use of optical equipment with examples of medically important families of Order Diptera - Simuliidae - Phlebotominae - Culicinae: Culex - Tabanidae: Tabanus - Muscidae: Musca, Calliphora (Lantern slides projection) *
	Dr. Gad	Dr. Gad - Mr. T. Zaghloul -	Mr. Samuel - Mr. K. Thymakis
Mon 5th Oct	<u>Lecture:</u> <u>Fam: Culicidae</u> - Characteristics, classification - General biology - External structure of mosquito:	<u>Lecture Demonstration:</u> - Diagnostic characters of the three genera of Fam. Culicidae. eggs, adults	<u>Lecture Demonstration:</u> - Diagnostic characters of the three genera of Fam. Culicidae larvae and pupae

3 OCTOBER - 5 JANUARY 1960 PART I - ENTOMOLOGY First Week

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 6th Oct	<p><u>Lecture:</u> Internal Anatomy of Mosquitoes.</p> <ul style="list-style-type: none"> <li>- Alimentary tract</li> <li>- Nervous system</li> <li>- Respiratory system</li> <li>- Circulatory system</li> <li>- Extrinsic cycle of malaria parasite</li> <li>- Male genitalia</li> </ul>	<p><u>Practical Demonstration:</u> <u>Mosquito dissection.</u></p> <ul style="list-style-type: none"> <li>- objectives</li> <li>- kit needed</li> <li>- dissection of salivary glands, staining, examination for sporozoites</li> <li>- dissection of stomach and examination for oocysts</li> </ul>	<p><u>Practical:</u> <u>Dissection practice.</u></p> <ul style="list-style-type: none"> <li>- stomach</li> <li>- salivary</li> </ul>
Wed 7th Oct	<p>Dr. Gad</p> <p><u>Lecture:</u></p> <ul style="list-style-type: none"> <li>- Female reproductive system</li> <li>- gonotrophic cycle</li> <li>- blood digestion stages</li> <li>- Ovary, stages, Christophers.</li> <li>- Determination of physiological age of females</li> </ul>	<p>Dr. A. R. Zahar - Mr. T. Zaghoul</p> <p><u>Lecture:</u></p> <ul style="list-style-type: none"> <li>- Age compositions of mosquito populations</li> <li>- Epidemiological significance of dangerous females</li> <li>- Evaluation of control measures by determination of age composition of vector population</li> </ul>	<p>Mr. Samuel - Mr. K. Thymakis</p> <p><u>Practical:</u></p> <ul style="list-style-type: none"> <li>- Demonstration of blood digestion stages</li> <li>- Dissection of ovaries</li> <li>- Demonstration of Christopher's stages</li> </ul>
Thur 8th Oct	<p>Dr. A. R. Zahar</p> <p><u>Practical:</u> <u>Dissection practice</u></p> <ul style="list-style-type: none"> <li>- Salivary</li> <li>- Ovaries</li> </ul>	<p>Dr. A. R. Zahar</p> <p><u>Demonstration:</u></p> <ul style="list-style-type: none"> <li>- Nulliparous females by tracheal system</li> <li>- Nulliparous females by Detinova's technique</li> </ul>	<p>Dr. Zahar - Dr. Gad - Mr. Zaghoul Mr. Thymakis</p>
	<p>Dr. Zahar - Dr. Gad - Mr. T. Zaghoul - Mr. Thymakis</p>		

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 10th Oct	<u>Lecture:</u> <u>Important Vectors and Common Species of Anophelines in EM Region</u> - Bionomics - Seasonal prevalence - Breeding places - Feeding and resting habits - Infectivity	<u>Lecture - Demonstration:</u> <u>Mosquito collections, adult and larvae</u> - Objectives, kit - Routine examination - Preservation and storage - Transportation of alive specimens - Transportation of preserved specimens	<u>Practical Demonstration:</u> - Routine examination of adult and larval collections - Pinning adults - Mounting larvae - Labelling
	Dr. A. Gad	Dr. Zahar - Mr. T. Zaghoul - Mr. Samuel	
Sun 11th Oct	<u>Lecture:</u> - Diagnostic characters of important vectors and common species in E.M.R. (Adults) - Use of keys - Keys to above species	<u>Practical: Demonstration:</u> - Identification of important vectors and common species in the E.M.R. (adults)	<u>Practical:</u> <u>Identification Practice</u> - Important vectors and common species in the E.M.R. (adults)
	Dr. A. Gad	Dr. Gad - Mr. T. Zaghoul	Mr. Samuel - Mr. Thymakis
Mon 12th Oct	<u>Lecture:</u> - Diagnostic characters of important vectors and common species in the E.M.R. (larvae) - Use of keys - Keys to above species	<u>Practical - Demonstration:</u> - Identification of important vectors and common species in the E.M.R. (larvae)	<u>Practical:</u> <u>Identification Practice</u> - Important vectors and common species in the E.M.R. (larvae)

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 13th Oct	<p><u>Lecture:</u>  <u>Anopheles Resistance</u>                      - History, definition, types                      - Physiological, Genetic origins of resistance                      - Counter-measures</p>	<p><u>Lecture:</u>  <u>Anopheles Rearing</u>                      - Objectives                      - Insectaries                      - Field rearing                      - Equipment for production of adults, eggs, larvae and pupae                      - Precautions in rearing</p>	<p><u>Practical: In Rearing Room</u>                      - Adult feeding                      - Collection of eggs                      - Larval feeding                      - Collection of pupae for adult emergence                      - Cleaning rearing equipment</p>
	Dr. A.R. Zahar	Dr. A.R. Zahar	Dr. Zahar - Mr. Thymakis - Mr. Zaghoul
Wed 14th Oct	<p><u>Lecture - Demonstration:</u>  <u>Susceptibility tests:</u>                      (adult &amp; larvae)                      - Objectives                      - Kit                      - Procedure                      - Personnel                      - Reporting</p>	<p><u>Practical - Demonstration:</u>                      Adult susceptibility tests</p>	<p><u>Practical - Demonstration:</u>                      Larval susceptibility tests</p>
	Dr. A.R. Zahar	Dr. Zahar - Mr. Thymakis	Dr. Zahar - Mr. Thymakis - Mr. Zaghoul
Thurs 15th Oct	<p><u>Lecture:</u>                      - Value of statistics in clerical work                      - Examples of problems</p>	<p><u>Lecture - Statistics</u>                      - Statistical measurements                      - Terminology                      - Mathematical background</p>	<p><u>Practical:</u>                      - Recording data of total done yesterday</p>
	Dr. T. Sadek	Dr. T. Sadek	Dr. Zahar - Mr. Thymakis - Mr. Zaghoul

FIRST SENIOR COURSE

REGIONAL VETERINARY EDUCATION  
TRAINING CENTRE  
DOKKI - CAIRO

3 OCTOBER - 5 JANUARY 1960

PART I - Third week (2)

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm			
Sat. 17th Oct.	<u>Lecture:</u> <u>Entomological Surveys</u> - Objectives - Methods - Personnel - Equipment - Organization - Reporting	<u>Lecture:</u> <u>Window traps</u> - Objectives & Principles - Types & Construction - Operation and significance of data - Personnel - Reporting night observations	<u>Field:</u> Practical from 3.30 - 9.30 pm - The construction of traps - Night observations			
	Prof. Chang	Prof. Chang	Prof. Chang - - Mr. Thymakis - Mr. Zaghoul			
Sun 18th Oct.	<u>Field:</u> all day from 8.0 am - 1.30 pm and from 2.30 - 6.0 pm 8.30 - 10.15am    10.30 - 12.15pm    1.30 - 3.15pm    3.30 - 5.30pm - Imago survey by hand capture    Group A    Group B    Group C    Larval - Imago survey by flitting    Group B    Group C    Group A    survey - Imago survey outdoors    Group C    Group A - Collection of blood meals (in all imago surveys) - Larval survey technique    all groups					
	Prof. Chang, Dr. A.R. Zahar - Mr. K. Thymakis - Mr. T. Zaghoul					
Mon. 19th Oct.	<u>Field:</u> Susceptibility test adults Group A    Mosquito collection forenoon exposure afternoon 1-2pm Susceptibility test larvae Group B    Larval collection forenoon exposed afternoon 3 - 4 pm Exchange at mid-day					
	Dr. A.R. Zahar - Mr. K. Thymakis - Mr. T. Zaghoul					



## FIRST SECTION COURSE

REGIONAL M.L.R.L. TRAINING CENTRE  
DOKKI - CAIRO

3 OCTOBER - 5 JANUARY 1960

PART I - Third Week (b)

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 20th Oct.	<u>Lecture:</u> <del>Calculation of</del> statistical measures.	<u>Lecture</u> <u>Statistics</u> Frequency distribution, arithmetic, mean, median, Rates and Ratio	Recording results of Susceptibility Tests made yesterday
	Mr. Fernando Sadek	Mr. Fernando Sadek	
Wed. 21st Oct.	<u>Lecture: Statistics</u> - Range - Standard deviation - Mean deviation - Elementary analysis - Statistical significance	<u>Lecture: Statistics</u> - Correlation coefficient - Common fallacies	<u>Graphical Presentation of Data:</u> - Line charts, arithmetic ruling - Semi logarithmic ruling, loge probit - Bar diagrams and histograms
	Mr; Fernando Sadek	Mr. Fernando Sadek	Mr. Sadek - P. Nyazi Youssef
Thur 22nd Oct.	<u>Group Discussion:</u> Statistical problems, examples to be worked out by trainees		
	M. Fernando Sadek - P. Nyazi Youssef		

UNIVERSITY OF SOHAR

3 OCTOBER - 5 JANUARY 1960

REGIONAL INSTITUTE OF SCIENCE  
TRAINING CENTER  
DOKKI - CAIRO

PART II - PARASITOLOGY & CLINICAL Fourth Week (c)

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 24th Oct.	<u>Examination:</u> Entomological- Written	<u>Examination:</u> Entomological- Practical	<u>Examination:</u> Entomological- Oral
Sun. 25th Oct.	<u>Lecture:</u> <u>Malaria Parasitology</u> - Historical and important discoveries - Cycle of transmission - Blood constituents	<u>Lecture - Demonstration</u> - the use of oil immersion for blood examination, illumination - Slide cleaning, packing and transportation - Blood sampling kit + Technique	<u>Practical:</u> - Blood sampling practice - Use of oil immersion
	Dr. Hanna	Dr. Hanna - Dr. Z. Kamel - Mr. Tahan	Dr. Hanna - Dr. Z. Kamel - Mr. Tahan
Mon. 26th Oct.	<u>Lecture:</u> - Blood cells differentiation - Classification of sporozoa and characteristics of <u>Plasmodia</u>	<u>Practical - Demonstration:</u> - Staining, objectives, stains - <u>Equipment</u> - Preparation of <u>Geimsa</u> stain - Demonstration staining	<u>Practical:</u> - Blood sampling practice - Staining with <u>Geimsa</u> - White cells differentiation on Geimsa stained specimens
	Dr. Hanna	Dr. Hanna - Dr. Z. Kamel Mr. Tahan	Dr. Hanna - Dr. Z. Kamel Mr. Tahan

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 27th Oct.	<u>Lecture:</u> - Plasmodium species of man - Plasmodia life cycle with terms relating to form of the parasite in the vertebrate host - Types of exo-erythrocytic schizogony with special reference to human plasmodia	<u>Practical - Demonstration:</u> - <u>Leishman stain</u> - Preparation - Demonstration on staining	<u>Practical:</u> - Blood sampling practice - Staining practice with <u>Giemsa</u> - White cells differentiation on specimens stained with <u>Leishmans</u>
Wed 28th Oct.	Dr. Hanna	Dr. Hanna - Dr. Z. Kamel - Mr. Tahan	Dr. Hanna - Dr. Z. Kamel Mr. Tahan
Wed 28th Oct.	<u>Lecture:</u> <u>P. vivax &amp; P. falciparum</u> <u>P. malariae &amp; P. ovale</u> - Parasite morphology & diagnostic features - Differentiation of stages	<u>Lecture:</u> <u>P. malariae &amp; P. ovale</u> <u>P. vivax &amp; P. falciparum</u> - cycle - symptoms - complications - relapses, latency & immunity <u>Blackwater Fever</u> - Etiology, symptoms Epidemiology	<u>Practical - Demonstration:</u> - Blood taking practice - Demonstration staining with JSP - Practice staining with JSP
Thurs 29th Oct.	Dr. Hanna	Dr. Hanna	Dr. Hanna - Dr. Z. Kamel Mr. Tahan
	<u>Practical - Demonstration:</u> <u>P. vivax stages in thin film and thick smears</u>	<u>Practical:</u> <u>P. vivax</u> identification practice	

REGIONAL HEALTH TRAINING  
CENTRE  
DOKKI - CAIRO

5 OCTOBER - 5 JULY 1960 PART II - Fifth Week (c)

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 31st Oct.	<p><u>Practical - Demonstration:</u> P. falciparum stages in thin films and thick smears</p>	<p><u>Practical - Demonstration:</u> P. malariae &amp; P. ovale stages in thin films and thick smears</p>	<p><u>Practical:</u> Identification practice P. falciparum &amp; P. malariae</p>
Sun. 1st Nov.	<p>Dr. Hanna - Dr. Z. Kamel - Mr. Tahan</p> <p><u>Lecture: Anti-Malarial Drugs</u> - Terminology - Groups, quinine, 4-aminoquinoline, 8-aminoquinoline, Proguanil, Pyrimethamine - Mode of action - Drug resistance in malaria</p>	<p><u>Practical: Identification Practice</u> - Examination of various blood specimens</p>	<p><u>Practical: Identification Practice</u> - Examination of various blood specimens</p>
Mon. 2nd Nov.	<p>Dr. Pampana</p> <p><u>Lecture: Anti-Malarial Drugs contd.</u> - Dosage for treatment of immune and non-immune persons - Prophylactic dosage</p>	<p><u>Practical: Identification Practice</u> - Examinations of various blood specimens</p>	<p><u>Practical: Identification Practice</u> - Examination of various blood specimens</p>
	<p>Dr. Hanna - Dr. Z. Kamel - Mr. Tahan</p>		

3 OCTOBER - 5 JANUARY 1960

PART II - Fifth Week

TRAINING CENTER  
BOHRI - CAIRO

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
<p>Tues 3rd Nov.</p>	<p><u>Lecture: Anti-Malarial Drugs (contd)</u>                      - Mass treatment                      - Mass prophylaxis</p>	<p><u>Practical: Identification Practice</u>                      - Examination of various blood specimens</p>	<p><u>Practical: Identification Practice</u>                      - Examination of various blood specimens</p>
	<p>Dr. Pampana</p>	<p>Dr. Hanna - Dr. Kamel - Mr. Tahan .....</p>	
<p>Wed. 4th Nov.</p>	<p><u>Lecture: Introduction to Malaria Epidemiology</u>                      - Terminology                      - Review of cycle of transmission stages in man, stages in mosquito                      - Epidemiology factors                      - Factors related to parasites</p>	<p><u>Practical:</u>                      - Parasite count                      - Examination of unstained films</p>	<p><u>Practical: Identification Practice</u>                      - Examination of blood specimens</p>
	<p>Dr. Pampana</p>	<p>Dr. Hanna - Dr. Kamel - Mr. Tahan</p>	
<p>Thurs. 5th Nov.</p>	<p><u>Lecture: Epidemiology (contd)</u>                      - Factors related to man                      - Race, age, sex, occupation, social &amp; economic status                      - Immunity factor                      - Factors related to mosquitoes</p>	<p><u>Practical:</u>                      - Parasite count                      - Examination of unstained films</p>	
	<p>Dr. Pampana</p>	<p>Dr. Hanna - Dr. Kamel Mr. Tahan</p>	

FIRST SEMESTER COURSE

3 OCTOBER - 5 JANUARY 1960

PART III - INSECTICIDES, EQUIPMENT  
AND SPRAYING - Sixth Week (c)

REGIONAL LEARNING CENTER  
DOKKI - C.I.P.O.

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 7th Nov	<p><u>Lecture: Epidemiology contd.</u></p> <ul style="list-style-type: none"> <li>- Malaria Endemicity</li> <li>- Measurements of malaria</li> <li>- Technique</li> <li>- Endemicity measurements</li> </ul>	<p><u>Lecture: Epidemiology contd.</u></p> <ul style="list-style-type: none"> <li>- Spleen rate, I.S. S.S.</li> <li>- Parasite rate</li> <li>- Infant parasite rate</li> </ul>	<p><u>Practical:</u></p> <ul style="list-style-type: none"> <li>- Practice parasite count</li> </ul>
	Dr. Pampana	Dr. Pampana	
Sun 78th Nov	<p><u>Lecture: Epidemiology contd.</u></p> <ul style="list-style-type: none"> <li>- Stable and unstable malaria</li> <li>- Measurements of stability</li> <li>- Cyclical changes</li> </ul>	<p><u>Lecture: Epidemiology contd.</u></p> <ul style="list-style-type: none"> <li>Epidemics</li> <li>- Nature and types</li> <li>- Climatological factors</li> </ul>	<p><u>Group Discussion:</u></p> <p>On Epidemiology of Malaria</p>
	Dr. Pampana	Dr. Pampana	
Mon 9th Nov	<p><u>Field:</u></p> <p>Malaria metric survey</p>	Spleen & Parasite Survey	
	Dr. Shavarby - Dr. Z. Kanel .....		

3 OCTOBER - 5 JANUARY 1960

PART III - Sixth Week

RECEIVED  
 20 OCTOBER 1960  
 BCKKI - G IRO

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 10th Nov.	<u>Field:</u> Malarionetric survey	Infant parasite survey	
	Dr. Shawarby - Dr. Kamel .....		
Wed 11th Nov.	<u>Lecture:</u> - Malaria Control Methods - Evolution and Evaluation of control methods	<u>Lecture: Insecticides</u> - Definition, types, chemistry, effect on insects, formulations, dilution a) <u>Old Insecticides</u> Paris Green, Pyrethum	<u>Lecture: Insecticides(contd)</u> b) New Insecticides D.D.T. B.H.H. Dieldrin Chlordane
	Dr. Pampana	Dr. Bertagna	Dr. Bertagna
Thurs 12th Nov.	<u>Lecture: Insecticides (contd)</u> - Toxicity in man and animals, symptoms, antidotes - Precautions - Storage & transportation	Biological assessment of residual toxicity, Sorption	
	Dr. Bertagna	Dr. Bertagna	

REGIONAL AGRICULTURAL TRAINING CENTRE  
DOKKI - CAIRO

3 OCTOBER - 5 JANUARY 1950 PART III - Seventh week ( )

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat. 14th Nov.	<u>Examination:</u> Practical	<u>Examination:</u> Written	<u>Examination:</u> Oral
Dr. Pampena - Dr. Shawerby - Dr. Zahar - Mr. Kolta .....			
Sun. 15th Nov.	<u>Lecture: Demonstration:</u> Bio-Assay	<u>Practical:</u> Bio-assay practice	<u>Group Discussion:</u> Results of Examinations
Dr. Zahar - Mr. Thymakis			
Mon. 16th Nov.	<u>Lecture:</u> - Spraying equipment - Various types of sprayers - Hudson X-per sprayer specifications	<u>Practical:</u> - The compression pump, (Hudson X-per) - Construction; demonstration dismantling, re-assembling	<u>Practical:</u> - Dismantling and re- assembling
Mr. S. Kolta		Mr. S. Kolta	
		Mr. S. Kolta	



Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 17th Nov.	<u>Lecture - Demonstration:</u> - Maintenance of sprayers - List of spare parts - Pressure regulator	<u>Practical:</u> - Detection of defects - Adjustment and minor repairs - Soft soldering demonstration	<u>Practical:</u> - Practice inspection of sprayers - Practice adjustment of pressure regulator
	Mr. S. Kolta	Mr. S. Kolta	Mr. S. Kolta
Wed. 18th Nov.	<u>Lecture:</u> <u>Residual spraying</u> - objectives, principles	<u>Field:</u> <u>Spraying practice:</u> - Demonstration spraying specifications. - Practice carrying sprayer, distance and step	
	Dr. A.R. Zahar	Mr. Kolta - Mr. Taha .....;.....	
Thurs. 19th Nov.	<u>Lecture:</u> - Lerviciding, conditions of application, - Organization	<u>Practical:</u> - Lerviciding materials and equipment - Demonstration of operation	
	Dr. Shawarby	Mr. Kolta	

FIRST SENIOR COURSE

REGIONAL FIELD OFFICE

TRAINING CENTER  
DORTCH - CLIFTON

OCTOBER - 5 JANUARY 1960

PART III - Eighth Week ( )

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 21st Nov.		<p><u>Field:</u> <u>Spraying Practice:</u>                      - Practice spraying with wooden extensions, on walls                      - Rhythm                      - Width of swath</p>	
	Mr. Kolta - Mr. Taha .....		
Sun 22nd Nov.		<p><u>Field:</u> <u>Spraying Practice:</u>                      - Practice, with water, on wall</p>	
	Mr. Kolta - Mr. Taha .....		
Mon. 23rd Nov.		<p><u>Field:</u> <u>Spraying Practice:</u>                      - Insecticide spraying                      - Practice spraying inside houses</p>	
	Mr. Kolta - Mr. Taha .....		

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 24th Nov.	<u>Examination:</u> Written	<u>Examination:</u> Oral	
	Dr. Zahar - Mr. Kolta - Mr. Taha .....		
Wed. 25th Nov.	PART IV - MALARIA ERADICATION ===== <u>Lecture:</u> <ul style="list-style-type: none"> <li>- Malaria Eradication, the international concept</li> <li>- Terminology, definition of Malaria Eradication, Vector Eradication</li> </ul>	<u>Lecture:</u> <ul style="list-style-type: none"> <li>- Theory of Mal. Erad.</li> <li>- Comparison with control</li> <li>- advantages over control</li> </ul>	<u>Lecture:</u> <ul style="list-style-type: none"> <li>- Phases of Malaria Eradication programme</li> <li>- The need for health education</li> </ul>
	Dr. Harmanfarman	Dr. Harmanfarman	Dr. Harmanfarman
Thurs 26th Nov.	<u>Lecture:</u> <ul style="list-style-type: none"> <li>- Signs of cessation of transmission</li> <li>- Detection of remaining foci of transmission</li> <li>- When spraying can be discontinued</li> <li>- Control of foci</li> </ul>	<u>Group Discussion:</u> On Malaria Eradication	
	Dr. Harmanfarman		

FIRST SENIOR COURSE

3 OCTOBER - 5 JULY 1960

PART IV - Ninth Week

REGIONAL TRAINING CENTER  
DOHUKI - CAIRO

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 28th Nov.	<p><u>Lecture:</u> <u>Problems in Mal. Erad.</u></p> <ul style="list-style-type: none"> <li>- Sorption</li> <li>- Elusive vector</li> <li>- Movement of population</li> <li>- Mechanical destruction of spraying</li> <li>- Unsprayable and temporary human habitations</li> <li>- The need for Health Ed.</li> </ul>	<p><u>Lecture:</u> <u>Health Education</u></p> <ul style="list-style-type: none"> <li>- Problems facing Malaria Eradication programme</li> <li>- Utilization of Malaria Erad. staff in H. Ed.</li> <li>- Government personnel in Health Education</li> <li>- Volunteers</li> </ul>	<p><u>Lecture:</u> <u>Health Education</u> - what has to be done</p> <ul style="list-style-type: none"> <li>- In preparatory phase</li> <li>- In attack phase</li> <li>- In consolidation phase</li> </ul>
Sun. 29th Nov.	<p>Dr. Pharmacist</p> <p><u>Lecture:</u> <u>Health Education</u> Planning &amp; organization of H. Education programme</p> <ul style="list-style-type: none"> <li>- Personnel training</li> <li>- Health Education in relation to Mal. Erad.</li> <li>- Legislation</li> </ul>	<p>Mr. Darby</p> <p><u>Lecture - Health Education:</u> <u>Health Educational Equipment</u></p>	<p>Mr. Darby</p> <p><u>Practical:</u></p> <ul style="list-style-type: none"> <li>- Demonstration of the use of Health Ed. equipment</li> </ul>
Mon. 30th Nov.	<p>Mr. Darby</p> <p><u>Field:</u> <u>Health Education</u></p> <ul style="list-style-type: none"> <li>- Visit to Health Education Centre, I.F.H.</li> <li>- Visit to a village where Health Education programme is being carried out</li> </ul>	<p>Mr. Darby</p>	<p>Mr. Darby</p> <p><u>Health Education:</u></p> <ul style="list-style-type: none"> <li>- Critics</li> <li>- Group discussion</li> <li>- Local problems arising H.E. in countries of trainees</li> </ul>

FIRST SENIOR COURSE

3 OCTOBER - 5 JULY 1960

PART IV - Ninth Week (b)

REGIONAL MALARIA ERADICATION  
TRAINING CENTRE  
DOKKI - CAIRO

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 1st Dec.	<p><u>Lecture: Steps to be taken for implementation of Malaria Eradication Programme</u></p> <ul style="list-style-type: none"> <li>- Whether completely new or</li> <li>- Transformed from control</li> <li>- Terms to recognize control programme as a step towards Malaria Eradication</li> </ul>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> <li>- Organization of Malaria Eradication programme</li> </ul>	<p><u>Lecture:</u></p> <ul style="list-style-type: none"> <li>- Training in Malaria Eradication</li> <li>- Legislation needed in Malaria Eradication</li> </ul>
Wed. 2nd Dec.	<p>Dr. Farmanfarman</p> <p><u>Lecture: The Preparatory Phase</u></p> <ul style="list-style-type: none"> <li>- Malarionetric surveys</li> <li>- Objectives</li> <li>- Operation</li> <li>- Personnel</li> <li>- Equipment &amp; Supplies</li> <li>- Organization</li> </ul>	<p>Dr. Farmanfarman</p> <p><u>Lecture: The Preparatory Phase</u></p> <ul style="list-style-type: none"> <li>- Entomological surveys</li> <li>- Objectives</li> <li>- Operation</li> <li>- Personnel</li> <li>- Equipment &amp; Supplies</li> <li>- Organization</li> </ul>	<p>Dr. Farmanfarman</p> <p><u>Group Discussion:</u></p> <ul style="list-style-type: none"> <li>- Preparatory Phase</li> </ul>
Thurs 3rd Dec.	<p>Dr. Farmanfarman</p> <p><u>Practicals</u></p> <ul style="list-style-type: none"> <li>- Preparation of manuals of instructions for preliminary malarionetric surveys</li> <li>- Preparation of manuals of instructions for preliminary entomological surveys</li> <li>- Preparation for field work of preparatory phase</li> </ul>	<p>Dr. Zahar</p>	<p>Dr. Farmanfarman - Dr. Shawarby Dr. Zahar</p>
	<p>Dr. Shawarby - Dr. Zahar .....</p>		



FIRST STIC. COURSE

3 OCTOBER - 5 JANUARY 1960 PART IV - Tenth week (b)

REGIONAL L.R. PPLICATION  
TRAINING CENTRE  
DOKKI - CAIRO

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 8th Dec	<p><u>Field:</u> all day - Mapping</p>		
Wed. 9th Dec.	<p>Mr. Kolta - Mr. Taha .....</p> <p><u>Field:</u> all day - Mapping</p> <p>Mr. Kolta - Mr. Taha .....</p>		
Thurs 10th Dec.	<p><u>Field:</u> Mapping</p> <p>Mr. Kolta - Mr. Taha</p>		

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 12th Dec	<p><u>Lecture: Attack Phase</u>                      Spraying Campaign                      - Definition                      - Objectives                      - Principles                      - Total coverage plan                      - Planning &amp; Procedure                      &amp; Estimates principles</p>	<p><u>Lecture: Spraying Campaign</u>                      Organization of Sp. campaign                      - Personnel                      - Job description for every category                      - Training</p>	<p><u>Lecture: Spraying Campaign</u>                      Estimates of Insecticides                      Equipment, Personnel and                      Transport</p>
Sun 13th Dec	<p>Dr. Zahar</p> <p><u>Lecture: Special Problems</u>  <u>in the Spraying Campaign</u>                      - Unsprayed premises &amp; houses                      - Bedouin tents                      - Temporary &amp; summer huts                      - Refrastering and re-painting                      - Accumulation of soot</p>	<p>Mr. Reafatjah</p> <p><u>Lecture</u> and                      - Examples to be worked out on estimates for spraying section of The Field Training Area.                      - Preparation of manuals of instructions                      - Reporting forms to be used by each category and summary of spraying reports.</p>	<p>Mr. Reafatjah</p> <p><u>Group Discussion:</u></p>
	<p>Mr. Reafatjah</p>	<p>Mr. Kolta - Mr. Taha .....</p>	<p>Mr. Kolta - Mr. Taha .....</p>
Mon 14th Dec	<p><u>Field:</u> Spraying in one section of The Field Training Area</p>		
	<p>Mr. Kolta - Mr. Taha .....</p>		



Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 15th Dec	<p><u>Field:</u> Spraying in one section of the Field Training Area ( contd.)</p> <p>Mr. Kolta - Mr. Taha .....</p>		
Wed. 16th Dec	<p><u>Field:</u> Spraying in the Field Training Area (contd.)</p> <p>Mr. Kolta - Mr. Taha .....</p>		
Thur 17th Dec.	<p><u>Practices:</u></p> <ul style="list-style-type: none"> <li>- Compilation of spraying data</li> <li>- Summary of spraying report</li> </ul>	<p><u>Group Discussion &amp; Criticis:</u></p> <ul style="list-style-type: none"> <li>- analysis of spraying data</li> </ul>	<p>Mr. Kolta - Mr. Taha .....</p>
	<p>Mr. Kolta - Mr. Taha - Dr. Zahar.....</p>		

DECEMBER - 5 JANUARY 1960 PART IV - Twelfth Week ( )

Date	9 - 11 AM	11.30 - 1.30 PM	3.30 - 5.30 PM
Sat 19th Dec.	<u>Field:</u> Trip for observation of a spraying campaign and critics.		
Sun 20th Dec.	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration
Mon 21st Dec.	Mr. A. Joseph	Mr. A. Joseph	Mr. A. Joseph
	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration
	Mr. A. Joseph	Mr. A. Joseph	Mr. A. Joseph

3 OCTOBER - 5 JANUARY 1960

PART IV - Twelfth week (r)

UNITED STATES DEPARTMENT OF HEALTH, EDUCATION AND WELFARE  
 PUBLIC HEALTH SERVICE  
 DIVISION OF INTERNATIONAL AFFAIRS

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tues 22nd Dec.	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration	<u>Lecture:</u> Administration
	Mr. A. Joseph	Mr. A. Joseph	Mr. A. Joseph
Wed. 23rd Dec.	<u>Lecture:</u> <u>Consolidation phase</u> <u>Surveillance:</u> - Definition - Objectives - Planning - Personnel - Organization	<u>Lecture:</u> <u>Consolidation phase (contd)</u> <u>Surveillance:</u> - Epidemiological investigations - Role of drugs	<u>Lecture:</u> <u>Surveillance (contd)</u> - Various forms and reporting system
	Dr. Farmanfarmaian	Dr. Farmanfarmaian	Dr. Shawarby - Dr. Karel
Thurs 24th Dec			

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat. 26th Dec.	<p><u>Field:</u> Surveillance - case finding</p> <p>Dr. Sharaby - Dr. Mehdi - Dr. Kamel .....</p>		
Sun. 27th Dec.	<p><u>Field:</u> Surveillance - Epidemiological investigation          - Entomological investigation</p> <p>Dr. Sharaby - Dr. Mehdi - Dr. Kamel</p>		
Mon. 28th Dec	<p><u>Group Discussion:</u> Preparatory Phase</p>	<p><u>Group Discussion:</u> Attack Phase</p>	<p><u>Group Discussion:</u> Consolidation Phase</p>
	<p>Dr. Formanfacian - Dr. Sharaby - Dr. Kolta - Dr. Zehar .....</p>		

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Tue s 29th Dec.	<u>Examination:</u> <u>Field:</u> Geographical Reconnaissance		<u>Laboratory:</u> Compilation of data
Mr. Kolta - Mr. Taha .....			
Wed. 30th Dec.	<u>Examination:</u> <u>Field:</u> Epidemiological Surveillance		<u>Practical:</u> Laboratory & compilation of surveillance data
Thurs 31st Dec.	<u>Examination:</u> <u>Field:</u> Entomological Surveillance and compilation of data		

3007/1960 - 5 JANUARY 1960

P. A. IV - Fourteenth year

FOUR - 3 I.C

Date	9 - 11 am	11.30 - 1.30 pm	3.30 - 5.30 pm
Sat 2nd Jan.	<u>Examination:</u> Written, Parts I, II & III  Dr. Shavarby - Dr. Zehar - Dr. Thymakis - Dr. Kamel - Dr. Zaghoul	<u>Examination:</u> Practical Parasitology	<u>Examination:</u> Practical Entomology
Sun. 3rd Jan.	<u>Examination:</u> Written, Part IV Maleria's eradication	<u>Examination:</u> Written, Part V Malaria's eradication	
Mon. 4th Jan	Dr. Shavarby - Dr. Zehar - Dr. Kamel - Dr. Zaghoul - Dr. Kamel	<u>Examination:</u> Oral	<u>Examination:</u> Oral
Tues 5th Jan.	Dr. Shavarby - Dr. Farid - Dr. Zehar	<u>Group Discussion:</u> Results of Examinations	<u>Group Discussion:</u> Final Speeches
	Dr. Bitash - Dr. Shavarby - Dr. Zehar - Dr. Kamel		