

**Professional examinations for degrees in medicine and surgery, 1911-12 /  
University of Glasgow.**

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University of Glasgow  
PROFESSIONAL EXAMINATIONS  
FOR DEGREES IN  
MEDICINE AND SURGERY

1911-12

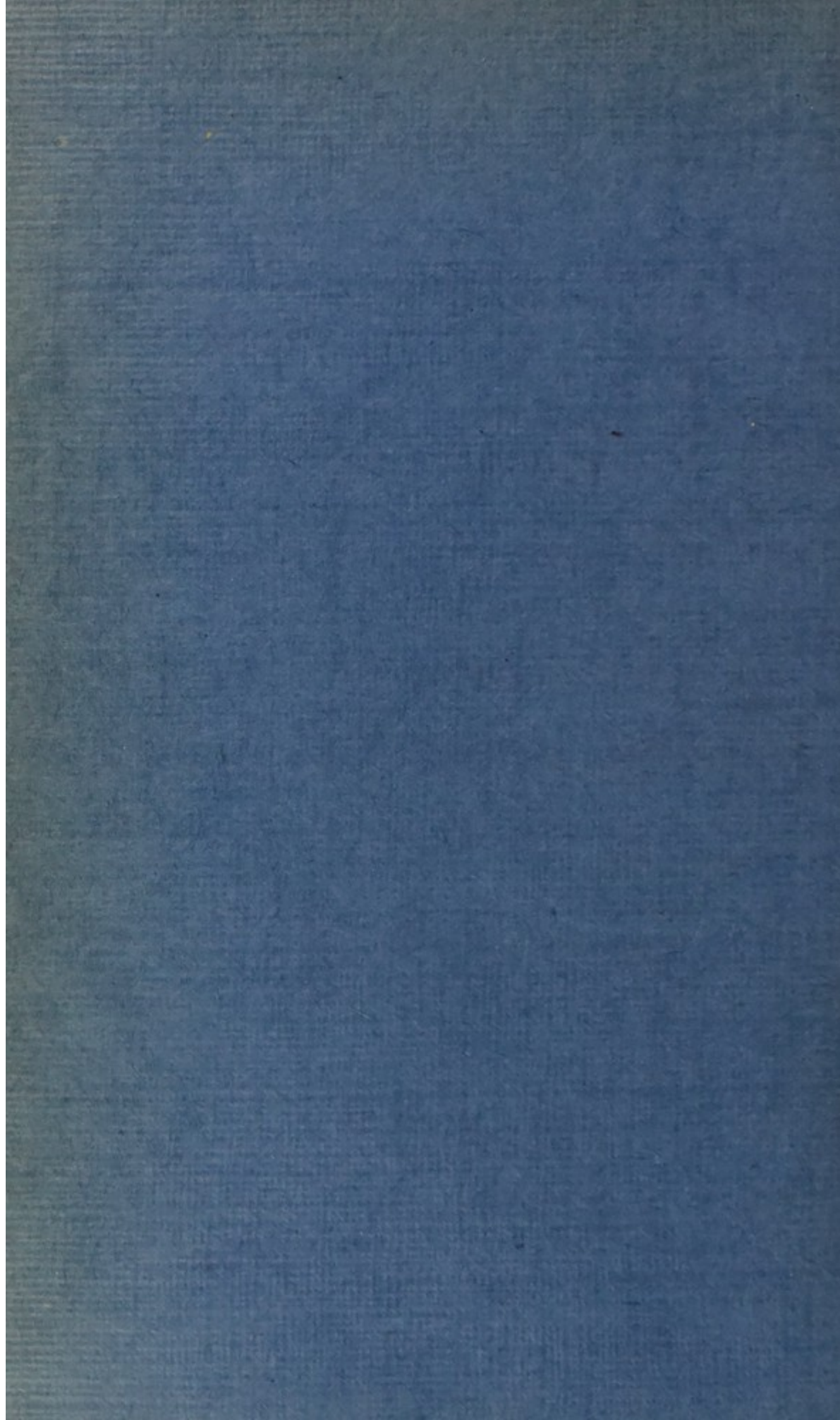


Glasgow  
Published for the University by  
James MacLehose and Sons

1912

Sixpence nett





Tuesday, 26th March, 1912.

9 to 11 a.m.

University of Glasgow.

EXAMINATION FOR FIRST M.B.

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*BOTANY.*

1. Give as detailed an account as you can of the structure of an embryonic cell of a plant. How do such cells multiply?
2. Describe a Bean, as regards its parts, and the substances stored in it. Discuss their proportions, and their value as food-stuffs for the germ, and for animals.
3. What are the essential points in fertilisation in plants? Give a detailed account of the process in any plant you may select.
4. Give examples of Fungi that are parasitic on other plants. Explain the nature of parasitism, and how the fungus gains access to the tissues of the host.
5. Describe a chlorophyll corpuscle and explain so far as you can its function.

*(Only FOUR questions to be attempted.)*





University of Glasgow.

**ZOOLOGY.**

*Candidates are reminded to bring their dissecting instruments to the Oral Examination.*

*Candidates in MEDICINE are expected to attempt FOUR (not more) questions out of the NINE. Candidates in SCIENCE and in ARTS are expected to attempt FOUR questions in SECTION A and TWO in SECTION B.*

*Candidates should illustrate their answers by diagrammatic sketches wherever possible.*

**A.**

1. Draw a diagram, with explanatory lettering but *without* extended written description, to illustrate the structure and life-history of one of the Foraminifera.
2. Describe the structure of a Trypanosome and give a list of the more important Trypanosomes, indicating in each case the host animal.
3. Draw a diagram with explanatory lettering but *without* extended written description, to illustrate the life-history of *Obelia*.
4. Draw up a table giving the names of the more important species of Tapeworm together with the names of the hosts in which they occur at different stages of their life-history.
5. Give a list of the cranial nerves of one of the lower Vertebrates, indicating the distribution of each.
6. Describe the allantois of (1) a Bird and (2) the Rabbit.

**B.**

7. Explain what is meant by the "rotation of the visceral hump" in Gastropoda.
8. Describe the process of meiosis in any selected type.
9. Write a short account of the palaeontological evidences of evolution.



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University of Glasgow.

FIRST PROFESSIONAL EXAMINATION  
IN MEDICINE.

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PHYSICS.

(NOTE.—Do not attempt more than FOUR of the following questions.)

1. A train, weighing 80 tons, is running at a speed of 44 feet per second when the steam is cut off and a constant retarding force applied by the brakes. Find the average time-rate of change of momentum exerted by the brakes if the train is brought to rest in traversing a distance of 300 yards.
2. State the laws of Boyle and Charles for gases, and describe the experiments by means of which you could verify one of them.

One litre of dry air at  $0^{\circ}\text{C}$ . and pressure 760 mms. of mercury weighs 1.293 grammes. Calculate the weight of a litre of air at  $100^{\circ}\text{C}$ . and under a pressure of 800 mms. of mercury.

3. Define (1) specific heat of a substance, (2) latent heat of a substance.

A vessel contains 3 lbs. of ice and 7 lbs. of ice-cold water. Steam at  $100^{\circ}\text{C}$ . is condensed in a worm in this vessel, and issues from the worm as water. Find what quantity of steam must be condensed in order to melt the ice and raise the temperature of the contents of the vessel to  $16^{\circ}\text{C}$ . [Latent heat of water = 80 ; latent heat of steam = 537.]

[OVER.



4. Construct a diagram showing the formation of the image of a luminous object by a concave spherical mirror. Explain how the position of the image changes as a luminous object is brought up along the principal axis from a great distance.

Describe the action of the ophthalmoscope.

5. Describe Oersted's experiment, and hence explain the action of a galvanometer.

A straight vertical wire in which a current is flowing passes at right angles through a hole in a card. Fine iron filings are sprinkled on the card, which is then tapped. How do the filings arrange themselves? Hence indicate the exact nature of the magnetic field due to the current.

6. Describe the action of a Daniell's cell, explaining how polarisation is prevented.

Given 20 similar cells (each of E.M.F. 2 volts) explain how (using all the cells in each case) you would connect them up to get E.M.F.'s of 40, 20 and 8 volts respectively. What advantage is there in the second and third cases to set against the low E.M.F.'s?

If the cells have appreciable internal resistance, what arrangement would be preferable, (1) when the resistance external to the battery is large, (2) when it is very small, as in the loop of a cautery?

University of Glasgow.

FIRST PROFESSIONAL EXAMINATION FOR THE  
DEGREE OF M.B.

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CHEMISTRY.

(Answer **FOUR** questions.)

1. Define the terms: Equivalent, Dibasic acid, Normal solution of an acid, Dissociation, giving illustrative examples. Explain how you would estimate the amount of an acid in a measured volume of its aqueous solution.
2. Describe the method you would employ to prepare and collect a sample of Chlorine gas, giving a sketch of the apparatus. Explain with the help of equations the action of Chlorine on (a) slaked lime, (b) Phosphorus, (c) Ammonia.
3. Write an account of the properties of Nitric acid, and represent by equations its action on (a) Sulphur dioxide, (b) Mercury, (c) Phosphorus, (d) Arsenic trioxide.
4. Give a detailed description of the method you would adopt for the preparation of the following substances: crystallised Ferrous Sulphate, Mercuric Chloride, Litharge, Disodic Phosphate. State shortly the properties of these substances.
5. Give the structural formula and the properties of Ethyl Alcohol. Represent by equations the reactions which take place when ethyl alcohol is heated with (a) Acetic acid, (b) an aqueous solution of Potassium Dichromate, containing sulphuric acid, and give the structural formulae and properties of the resulting substances.

The first of the series of lectures was given on the 1st of January, 1890, and was entitled "The History of the English Language". It was a most interesting and instructive lecture, and was well received by the audience.

### History of the English Language

The history of the English language is a subject of great interest and importance. It is a subject which has attracted the attention of many scholars and writers, and has been the subject of many books and articles. The history of the English language is a subject which is of great interest to all who are interested in the history of the English people.

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26th March, 1912.

9 to 11 a.m.

University of Glasgow.

SECOND PROFESSIONAL EXAMINATION.

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ANATOMY.

(FOUR questions only to be attempted.)

1. Give the shape and position of the Pancreas, describe its relations to adjacent viscera and to the peritoneum, and give an account of its mode of development.
2. Describe the superficial coverings of the cranial bones in the regions of the forehead and temple; and give an account of the vascular and nervous supply to the scalp as a whole.
3. Give an account of the anatomy of the true vocal cords, and describe the arrangements by which their relative position and degree of tension can be varied.
4. Describe the portal system of veins, and the circulation of the venous blood through the liver; note where and how the portal system is connected with the systemic system of veins.
5. Describe the mode of formation, and the relations of the deep palmar arch.

# Journal of the

Proceedings of the

General Assembly

of the

State of New York

for the year 1871

Albany: Printed by the State Printer, 1871.

Entered as Second-Class Matter, June 23, 1879, under No. 1053, Post Office at Albany, N. Y., authorized for mailing at special rate of postage provided for in Act of October 3, 1917. Accepted for mailing at special rate of postage provided for in Act of October 3, 1917, on July 1, 1920.

Published by the State of New York, 1871.

Tuesday, 26th March, 1912.

*Time—Two hours.*

University of Glasgow.

DEGREES OF M.B., CH.B.

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PHYSIOLOGY.

*(The first two questions are to be answered in one Examination Book  
and the last two in the other.)*

1. Give a brief account of the way in which the deep temperature is kept constant in a warm-blood animal. How may (1) the internal and external temperature and (2) the total heat production be measured?
2. Mention the cardinal characters of the chemical constitution of a protein. Give in outline a scheme of classification of animal proteins.
3. Draw (1) a diagram illustrating the formation of an optical image on the retina, and (2) a diagram exhibiting the structure of the retina and its connection with the visual area of the brain.
4. Explain how it is that the pulse is not transmitted to the capillaries and veins. What is meant by the venous pulse?



# PROCEEDINGS OF THE

## ANNUAL MEETING OF THE

### ASSOCIATION OF

- (1) The first of the two papers read by the author was on the subject of the influence of the temperature of the water on the rate of the reaction between the two substances.
- (2) The second paper was on the subject of the influence of the concentration of the solution on the rate of the reaction.
- (3) The third paper was on the subject of the influence of the nature of the solvent on the rate of the reaction.
- (4) The fourth paper was on the subject of the influence of the presence of a catalyst on the rate of the reaction.
- (5) The fifth paper was on the subject of the influence of the pressure on the rate of the reaction.
- (6) The sixth paper was on the subject of the influence of the time of contact on the rate of the reaction.
- (7) The seventh paper was on the subject of the influence of the surface area on the rate of the reaction.
- (8) The eighth paper was on the subject of the influence of the nature of the reactants on the rate of the reaction.
- (9) The ninth paper was on the subject of the influence of the nature of the products on the rate of the reaction.
- (10) The tenth paper was on the subject of the influence of the nature of the medium on the rate of the reaction.

March, 1912.

University of Glasgow.

DEGREES OF M.B. AND CH.B.

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*PRACTICAL PHYSIOLOGY.*

A.—HISTOLOGY.

*Time—50 minutes.*

1. Carry out the procedures indicated on the paper slip at the place allotted to you.
2. Identify the specimens in the tray numbered 2.

B.—CHEMISTRY.

*Time—50 minutes.*

1. Carry out the chemical investigation indicated on the card at the place allotted to you.

C.—GENERAL.

*Time—50 minutes.*

1. Prepare and demonstrate to the examiners the experiment or experiments allotted to you.





Monday, 25th March, 1912.

9 to 11 a.m.

University of Glasgow.

*MATERIA MEDICA AND THERAPEUTICS.*

SECOND PROFESSIONAL EXAMINATION.

PROFESSORS WILD AND STOCKMAN.

1. Write a short account of the different classes of drugs which are used as *Diuretics*, giving a number of examples under each heading.
2. What official preparations contain free (metallic) *Mercury*?  
Give a short account of the actions and uses of these.
3. What drugs dilate blood-vessels when given internally?  
State their doses and the conditions for which they are used.
4. Describe the pharmacological action of *Calabar Bean*, and give its official preparations and their doses.
5. Under what different conditions would you administer *Paraldehyde Potassium Bromide*, *Morphine Tartrate*, and *Codeine*, as hypnotics. State the dose and form of administration in each case.

CHAPTER I

THE HISTORY OF THE

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Tuesday, 26th March, 1912.

12 noon to 2 p.m.

University of Glasgow

THIRD PROFESSIONAL EXAMINATION.

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*PATHOLOGY.*

*(Not more than FOUR questions to be answered.)*

1. State the essential features of carcinoma, and mention any conditions which appear to determine its position of occurrence. How may a tumour interfere with the health or life of the subject?
2. What organisms are concerned in the production of suppuration? Describe the microscopic and cultural characters and the powers of resistance of any one of them.
3. Under what conditions does necrosis occur, and what histological changes are found in the tissues? Describe the condition known as "fat necrosis," and discuss its causation.
4. Describe the appearances (naked-eye and microscopic) of the kidneys usually met with in subacute nephritis. Mention (without describing) the changes which commonly occur in other organs in association with this condition.
5. Give an account of the lesions in the cord and nerves in acute anterior poliomyelitis, and discuss the etiology of the disease.



THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

THOMAS SWANSON, JR. PH.D.

RESEARCH

1935-1936

1. The effect of temperature on the rate of reaction of hydrogen peroxide with ferrous sulfate in the presence of ceric sulfate as a catalyst.

2. The effect of the concentration of ceric sulfate on the rate of reaction of hydrogen peroxide with ferrous sulfate.

3. The effect of the concentration of ferrous sulfate on the rate of reaction of hydrogen peroxide with ceric sulfate.

4. The effect of the concentration of hydrogen peroxide on the rate of reaction of ceric sulfate with ferrous sulfate.

5. The effect of the concentration of ceric sulfate on the rate of reaction of hydrogen peroxide with ferrous sulfate.

University of Glasgow.

EXAMINATION FOR DEGREES IN MEDICINE.

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*MEDICAL JURISPRUDENCE.*

N.B.—FOUR questions only to be answered, which must include No. 5.

1. Compare and contrast the post-mortem appearances, external and internal, in death by (a) Drowning, (b) Throttling, and (c) Suffocation by Coal or Illuminating Gas.
2. What is Criminal Abortion? State generally the law on the subject. How may abortion be illegally induced? From what causes may death ensue therefrom? What post-mortem appearances may be found?
3. What is Rigor Mortis? What is its cause? Compare it with the condition known as Instantaneous Rigor. With what conditions after death may Rigor Mortis be confounded? How may these conditions be differentiated?
4. State the law respecting Certification of death (1) for interment and (2) for cremation of the body in (a) England and (b) Scotland respectively.
5. What are the fatal dose, the signs and symptoms, and the post-mortem appearances in acute poisoning by Phosphorus? How may the poison be procured, and in what forms? Give in some detail the chemical tests whereby the poison may be detected during life and after death.

# OF THE

CONSTITUTION OF THE UNITED STATES

## OF THE

ARTICLE I

SECTION 1

ALL LEGISLATIVE POWERS SHALL BE VESTED IN A CONGRESS OF THE UNITED STATES

WHICH SHALL CONSIST OF A SENATE AND HOUSE OF REPRESENTATIVES

SECTION 2

THE HOUSE OF REPRESENTATIVES SHALL BE COMPOSED OF MEMBERS ELECTED BY THE PEOPLE

OF EACH STATE

SECTION 3

THE SENATE SHALL BE COMPOSED OF TWO MEMBERS FROM EACH STATE

CHOSEN BY THE LEGISLATURE THEREOF

SECTION 4

THE HOUSE OF REPRESENTATIVES SHALL CHOOSE A SPEAKER

SECTION 5

THE HOUSE OF REPRESENTATIVES SHALL HAVE THE SOLE POWER OF IMPEACHMENT

SECTION 6

THE SENATE SHALL HAVE THE SOLE POWER TO TRY ALL IMPEACHMENTS

University of Glasgow.

EXAMINATION FOR DEGREES IN MEDICINE.

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*PUBLIC HEALTH.*

N.B.—*Four questions only to be answered.*

1. Discuss the bearing of cubic capacity on ventilation. What is the minimum or prescribed amount of cubic space required in (a) a bedroom, (b) infectious hospital ward, (c) common lodging-house, and (d) a workshop, per adult person?
2. Give reasons why potable waters from (1) upland sources, (2) rivers, (3) shallow wells should be periodically submitted to physical, chemical, and biological analysis. What is the significance of relative excess of chlorine, of free ammonia, and the presence of the *B. coli communis* in a water, either singly or in combination?
3. What are the dangers to health which may occur in the following occupations: (a) wool or hair-sorting, (b) knife-grinding, (c) rag-picking, and (d) stone-cutting? How can such dangers be prevented?
4. A case of enteric fever occurs in a dairy farm in a boy of a family consisting of father, mother and three children. The house has only two bedrooms, and no hospital accommodation is available. What measures ought to be taken in relation to (1) the local sanitary authority, (2) the patient, (3) the rest of the family, and (4) the milk supply from the farm?
5. Distinguish between (1) a deodorant, (2) an antiseptic, (3) a disinfectant, and (4) a germicide. Give two examples of each, with their usable dilutions.



THE  
JOURNAL OF THE  
ROYAL ANTHROPOLOGICAL INSTITUTE

THE  
JOURNAL OF THE  
ROYAL ANTHROPOLOGICAL INSTITUTE

Volume 100, Part 1, 1970

The first part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand. The second part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand.

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The fifth part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand. The sixth part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand.

The seventh part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand. The eighth part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand.

The ninth part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand. The tenth part of the volume contains a series of papers on the evolution of man, including a paper by J. Huxley on the evolution of the human brain, and a paper by J. Huxley on the evolution of the human hand.

Friday, 22nd March, 1912.

2 to 4 p.m.

University of Glasgow.

FINAL PROFESSIONAL EXAMINATION FOR M.B.

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*SURGERY.*

(FOUR questions to be answered.)

1. Describe the healing of a wound of the soft tissues.
2. Mention some causes of Hæmaturia calling for surgical intervention. Give the differential diagnosis.
3. Where may an abscess commencing in the mid-dorsal region of the spine in Pott's disease reach the surface? Describe the course which is followed in each case.
4. What is a Ranula? Give the symptoms and treatment.
5. Mention the principal intra-cranial complications of middle-ear disease, giving their leading signs and symptoms.

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22nd March, 1912.

*Time—10 a.m. to 12 noon.*

University of Glasgow.

DEGREE OF M.B.

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*PRACTICE OF MEDICINE.*

1. How do you estimate the severity of a case of Diabetes Mellitus? Give an account of the better known complications of this disease, and state your views as to their pathogenesis.
2. Describe the symptoms and signs of congenital syphilis as met with (*a*) in an infant six weeks old, (*b*) at the age of puberty.
3. What are the most frequent causes of coma: how would you differentiate between them?
4. Discuss the aetiology, symptoms and treatment of Infantile Paralysis.
5. A man, aged 45, suffered from sudden "weak turns," accompanied by nausea, clouded vision and actual unconsciousness of short duration, succeeded for a short time by vertigo and palpitation; all symptoms passing off after a few hours' rest in bed. For 15 years he had been subject to severe headaches; had had "rheumatism" and gonorrhoea; been a heavy drinker and smoker; had had eight children, the first four still born, the next two died in infancy and the remaining two at 11 and 13 years respectively. On examination no gross lesion was found in any of the viscera: the cardiac dulness was 4 inches transversely; there were no signs of valvular flaw; the pulse was regular, of good force, but very slow—32 to 36 per minute. Death, preceded by epileptiform seizures, occurred a week after admission.

Comment on this case, giving a probable diagnosis; and state what pathological conditions you might encounter on a post-mortem examination.

*FOUR questions to be answered, of which No. 5 must be one.*





23rd March, 1912.

*Time—Two hours.*

University of Glasgow.

FINAL PROFESSIONAL EXAMINATION.

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*OBSTETRICS AND GYNAECOLOGY.*

1. How would you conduct the third stage of labour? What complications may arise, and how would you deal with them?
2. Describe the clinical features of extra-uterine pregnancy, and discuss the differential diagnosis.
3. Give the symptoms and diagnosis of pernicious vomiting. Describe the management and treatment that might be required.
4. Describe the various conditions in which uterine haemorrhage may be met with apart from pregnancy (*a*) where constitutional ailment is the exciting cause, (*b*) where the cause is uterine.
5. What instructions would you give regarding the nursing and feeding of an infant during the first year?

# THEORY OF THE

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2. The second part of the theory is the theory of the

3. The third part of the theory is the theory of the

4. The fourth part of the theory is the theory of the

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