

FIRST REPORT

OF THE

Superintendent of Public Instruction

OF THE

STATE OF UTAH.

FOR THE SCHOOL YEAR

ENDING JUNE 30, 1896.

SALT LAKE CITY.

1897.

TEACHERS.

A visitor at the county institutes during the summer months, is struck most forcibly by the youthful appearance of the majority of the teachers present. Many of them appear to be not over 16 or 17 years of age, though superintendents and trustees assert that none under eighteen years are employed. Employing these children to teach children, especially where they have entire charge of the school, which is often the case, cannot be else than injurious to the cause of education and to the young people employed.

Inquiry into the cause of the tendency to employ immature and poorly prepared young women as teachers shows that it is immediately due largely to local favoritism in the employment of teachers, and remotely to the inadequate salaries paid them in the lower grades in rural districts. Here the remote cause is the most important; men and women of ability remaining in the schools only long enough to secure for themselves more agreeable and remunerative employment. The first requisite for securing a good teacher is a reasonable salary. It is well enough to impress upon well paid teachers the worthiness, the dignity, the nobility, of the teacher's work; but it is worse than useless to emphasize these things when teachers are poorly paid. It is useless to argue that the teacher should be above sordid motives; the laborer is worthy of his hire, here as elsewhere; and the teacher's compensation should be the better the more important is his work. Besides, parsimony in paying teachers shows more sordidness on the part of their employers than does the teachers' demand for adequate salaries; especially where the school funds are misappropriated or squandered, which is often the case. Trustees plead lack of funds as an excuse for employing poor teachers at low salaries; but in most cases, their reports show that they exercise but little economy in other things, expending funds, often illegally for the purpose of purchasing worthless material or to increase their own compensation, that should be employed in securing the best teacher available.

The Preparation of Teachers.—Our public school system includes a normal school for the training of

teachers. This school has special advantages by being constituted a part of the University, so that its students have the same instructors, laboratory and library facilities, etc., as other students in the University. The Normal school includes a model training school, in which students not only observe the work of the most skillful teachers, but have actual practice in teaching under the direction of skilled critic teachers and supervisors. Thus a student graduated from our normal school not only has practice as well as theory, but a practice which is systematically and scientifically arranged and ordered; his theory and practice go hand in hand; so that he is guarded equally against vague, unreal pedagogical sophistry on the one hand, and narrow empiricism on the other. The University has also a department of pedagogy, designed to give adequate training and instruction to those who desire to fit themselves to be high school teachers, school superintendents, supervisors, etc.

A branch of the State normal school is established in Cedar City, in the southern part of the State, so as to supply the needs of those whom distance or financial inability prevents from attending at the University.

The Normal school has a work shop for manual training in which the development of eye, ear, and hand guards both pupil and teacher against becoming bookish and unpractical. The school works upon the demonstrated truth, that the human organism is one and indivisible; that mental, moral, and spiritual growth are not independent of physical; that instruction is more than useless when the learner gets no actual acquaintance with the world in which he lives. Great care is taken to make this work natural and practical; to correlate with all other subjects taught; and, while giving the pupils of the training school a solid basis of muscular and nervous development, to enable teachers to get an understanding of the great significance of industrial training, and its bearing upon education as a whole.

Under the head of industrial education, I have set forth briefly what, in my opinion, is required in

our schools, especially in rural districts. The preparation given in the normal school will fit teachers to carry on the work of industrial education along those lines; making it not a mere fad, or a system of petty devices, to keep pupils out of mischief, or to interest them in the "three R's," but a solid basis of experience upon which to found instruction, and a strong bond of union between the school and the home; the school and the community.

The Board held its first meeting on June 27th, 1896, at which time Dr. J. F. Millspaugh was appointed Secretary, and at a subsequent meeting a set of rules for the government of the Board was also prepared.

Those most pertinent to applicants for certificates and diplomas are as follows:

Applications.

1. Application for examination or for the issuance of certificates or diplomas shall be made in writing.

2. All applicants desiring the consideration of documentary evidences of efficiency shall be required to present the original documents for inspection, and to file with the Board copies of such documents or full descriptions of the same, all properly attested; and said attested copies or descriptions shall remain in the custody of the Board.

Certificates and Diplomas.

1. State certificates and diplomas shall be issued by the Board on satisfactory evidence of scholarship and of other qualifications.

2. Diplomas shall be issued only on satisfactory evidence accepted by the Board, of efficiency in all the branches of scholarship and other qualifications specified by law as required for the issuance of such diplomas.

Nine meetings were held during this year, 1896, but aside from considering applications for teachers' certificates and diplomas, but little business was accomplished, as the Board was greatly handicapped in its labors for the reason that the legislature had failed to make an appropriation of funds with which to meet the expenses of the Board. No printing of forms of certificates and diplomas nor other necessary matter could, therefore, be done.

The Board is authorized by law to grant diplomas of two grades, namely; State high school, and State grammar; and certificates of one grade, namely; State grammar.

The high school diploma gives the holder thereof a license for life to teach in any department of the public schools; the grammar grade diploma is also a license for life and is valid in the grammar and primary departments; while the State certificate is valid for five years and authorizes its holder to teach in the grammar and primary departments.

The requirements for these diplomas and certificates are as follows:

“Candidates for State professional diplomas of high school grade shall be required by examination or other evidence to exhibit a high degree of scholarship in all the following branches, namely; Arithmetic, United States history, reading and elocution, orthography, English grammar, political and physical geography, physiology, algebra, physics, rhetoric, drawing, plane and solid geometry, botany, English literature, general history, civil government, history and science of education, and psychology; and also in any three of the following branches, namely; chemistry, geology, French, German, Latin, Greek, trigonometry, zoology, biology, and mineralogy. Candidates for State professional diplomas of grammar grade shall be required, by examination or other evidence, to exhibit satisfactory knowledge of all the following subjects, namely; arithmetic, United States history, reading and elocution, orthography, English grammar, political and physical geography, physiology, nature studies, algebra, physics, rhetoric, drawing, plane geometry, botany, English literature, general history, civil government, the history and science of education, and psychology.”

As the law does not specify the requirements for a State certificate, by resolution of the Board, the requirements for the certificate were made the same as those now required for high school certificates in cities of the first and the second class. They are as follows:

Pedagogics and school management, reading, writing spelling, English grammar, geography, arithmetic, physiology and hygiene, United States history, civil government, physical geography, elementary physics, elementary algebra, botany.

The Board is also empowered to recognize life diplomas issued by state boards of other states when it is evident that such diplomas are equal in rank to those issued by this Board, and after the holder thereof has had two years' successful experience in the schools of this State.

The Board has prepared also a "Scheme of State Examinations," outlining the requirements in the several subjects required by law for the diplomas and certificates, and these are furnished to any person upon application.

Two annual examinations have been held by the Board; the first on October 7th, 8th, and 9th, 1897, and the second, on August 15th, 16th, 17th, and 18th, 1898. Both examinations were properly advertised, and examiners were engaged and questions prepared on all subjects required for the diplomas and certificates. The cost of holding the first examination, at which there were but three candidates, was \$131.90; at the second examination there were seven candidates, and the cost of conducting the same was \$95.55.

All applicants for examination were required to fill out and file with the Chairman of the Board, at least fifteen days prior to the holding of the examination; the following blank form:

APPLICATION BLANK FOR THE USE OF CANDIDATES FOR
STATE DIPLOMAS AND STATE CERTIFICATES.

1. Name in full.....
2. Age.....
3. Education—
 - (a.) School of highest grade attended
 - (b.) Length of such attendance.....
 - (c.) Academic or professional degrees obtained
4. Experience in teaching—
 - (a.) Length of teaching experience
 - (b.) Grade or grades taught.....
 - (c.) Where engaged for the past two years.....
5. If formerly engaged in teaching, but not so employed recently, state how long the interval since last engaged as a teacher, and how employed during that time
6. Grade of certificate, if any, now held.....

7. Class of diploma or certificate for which application is now made.....
 - (a.) Original
 - (b.) Renewal of
 - (c.) Substitution of.....
8. Grounds on which application is based.....
9. If an applicant for examination, is such examination desired in—
 - (a.) All subjects required by law for the diploma or certificate indicated?
 - (b.) Certain subjects only, if so, name such subjects and give reasons for desired exemption from the other subjects?
 - (c.) In case of examination for diplomas of High School grade, name optional subjects selected.....

(This blank application must be properly filled and placed on file with the Chairman of the State Board of Education on or before.....)

The rules adopted for the conduct of the examinations are as follows:

RULES FOR THE CONDUCT OF EXAMINATIONS.

Each candidate must fill out a registration blank furnished by the Board.

No explanations of questions may be given by anyone, unless publicly for the benefit of all candidates; and no one may inspect or criticize any work while the same is in progress.

Candidates must not, during the examination, communicate in any way with any person other than an examiner.

Any effort on the part of any candidate to obtain aid in any improper ways, or to give it, will be followed by the canceling of his or her entire examination.

No candidates may be permitted (except in case of

sickness) during any examination to leave the room and return.

All papers will receive the same treatment and be graded on merit only. The general appearance of the work, its neatness, arrangement, etc., will influence the marking.

All candidates whether successful or unsuccessful will be informed as to the results of the examination as soon thereafter as practicable.

Candidates for a High School Diploma must secure an average of 85 per cent. and those for a Grammar Grade Diploma an average of 80 per cent. in all subjects and not fall below 60 per cent. in any one. Candidates for a Grammar Grade Certificate must secure an average of 70 per cent. and not fall below 50 per cent. in any subject.

I present also herewith the questions used in the two examinations mentioned in the foregoing.

EXAMINATION QUESTIONS.

1897.

ARITHMETIC.

1. A man sold two horses for \$120. What is his per centum of loss on one, not to gain or lose in the transaction, if he gains 20 per cent. on the other?
2. If a person loans me \$250 for eight months, for how long a time must I loan him \$400 as an equivalent?
3. Suppose a cubic foot of water weighs $62\frac{1}{2}$ pounds. Find the weight of a cord of pine wood whose specific gravity is .66?
4. A farmer has a 3-acre field in the form of a right angled triangle. One of the perpendicular sides is 242 yards long. How long is the other?
5. Solve 5 and 6 by proportion. If it cost \$14 to paint the walls and ceiling of a room 25 feet long, 20 feet wide and 10 feet high, how much would it cost to paint the walls and ceiling of room 50 feet long, 40 feet wide and 20 feet high?
6. If 8 persons eat \$40 worth of bread in 6 months, when flour is \$7 a barrel and labor is \$40 per month, how many dollars worth will 24 persons eat in 8 2-5 months when flour is \$5 a barrel and labor \$50 a month?
7. The inside diameter of a circular walk is 20 feet and the width is 5 feet. How many square feet does the walk contain?
8. The base of a triangle is equal in length and coincides with the side of one of the Salt Lake City blocks, and the vertex is in the opposite side. What is the area of the triangle? The blocks are square and each contain 10 acres.
9. An iron cube 2 feet long weighs two tons. Find specific gravity of iron.
10. The longitude of one place is $165^{\circ} 18'$ east; of another $158^{\circ} 42'$ west. When it is one o'clock p. m. at the latter place, what is the time at the former?

UNITED STATES HISTORY.

Answer III, V, XI, XIII, and any six others.

I.

(a.) Name five Spanish, five French, and five English explorers, and tell what parts of America each discovered or explored.

(b.) What Papal decree affected settlements in America. How was this decree obeyed and how disobeyed?

II.

(a.) Discuss at least four motives that prompted Europeans to make settlements in America. Indicate one or more colonies made under each.

(b.) What is a charter, as the term is used in connection with English settlements in America? What was the necessity for obtaining charters? What important settlement was made by the English without a charter?

III.

Describe the three forms of government existing among the English colonies just before the Revolution. Classify the colonies under these forms. What colonies existed under other forms at earlier times? What were the conditions under which these several forms were changed?

IV.

Discuss all the changes in the national ownership of territory in North America previous to 1789.

V.

Discuss the causes of the American Revolution. Be specific.

VI.

Trace the movements of the Continental army under Washington from its organization in 1775 until it was in camp at Newberg. Give the purpose and result of each movement, naming the battles fought during the time indicated.

VII.

What were the Articles of Confederation? Discuss three of their most important defects and how in a later document these defects were remedied.

VIII.

(a.) Discuss the authority and work of the Constitutional Convention of 1787. Describe the method by which the Constitution was adopted.

(b.) What was the first method provided for the election of President? What were the chief objections to this method and what other method was provided by amendment?

IX.

Trace the growth of political parties from 1789 to 1821, discussing their principles and naming the chief leaders.

X.

Discuss the "spoils system," what it is, its beginning, its growth, civil service reform, &c.

XI.

Discuss concisely the slavery agitation, including the various important congressional enactments and judicial decisions concerning slavery (at least five) until the emancipation proclamation.

XII.

- (a.) Discuss the contention between Congress and the President respecting reconstruction.
 (b.) How were the seceding states reconstructed?

XIII.

What territory has the United States acquired since 1789? Outline briefly the circumstances under which each tract was secured. Be definite as to the boundaries, money paid, &c.

XIV.

- Discuss briefly the political, social, and economic changes in the United States and conditions made possible by the following:
 (a.) Cotton Gin.
 (b.) Steamboat.
 (c.) Telegraph.

XV.

- Discuss briefly
 (a.) The difference between nullification and secession.
 (b.) The Virginia and Kentucky Resolutions of 1798 and 1799 respectively.
 (c.) The Alabama Claims.
 (d.) The Ashburton Treaty.
 (e.) The North West Ordinance of 1787.

READING AND ELOCUTION.

I.

Indicate by diacritical marks the correct pronunciation of the following: (mark out silent letters; mark accents; mark every letter that can be marked.)

- | | |
|--------------------|-----------------|
| 1. genuine. | 26. ascertain. |
| 2. comrade. | 27. inquiry. |
| 3. species. | 28. area. |
| 4. possess. | 29. perfected. |
| 5. apparatus. | 30. perceive. |
| 6. psalm. | 31. pathos. |
| 7. draught. | 32. discern. |
| 8. drought. | 33. chaplain. |
| 9. gross. | 34. drollery. |
| 10. ally. (verb.) | 35. grimace. |
| 11. superfluous. | 36. homœopathy. |
| 12. facade. | 37. preface. |
| 13. malice. | 38. exhaust. |
| 14. sonorous. | 39. interested. |
| 15. courtesy. | 40. turquoise. |
| 16. decade. | 41. calyx. |
| 17. theatre. | 42. bronchitis. |
| 18. incomparable. | 43. deficit. |
| 19. solace. | 44. acclimate. |
| 20. extraordinary. | 45. finance. |
| 21. exquisite. | 46. leisure. |
| 22. bombard. | 47. museum. |
| 23. conjure. | 48. patriot. |
| 24. profligacy. | 49. tepid. |
| 25. concentrate. | 50. deafen. |

ORTHOEPY.

II.

When has *t* the sound of *sh*?

What other letters also have the sound of *sh*, and under what circumstances?

Write a list of all the vowel sounds properly marked, together with a word illustrative of each sound?

III.

Read a prepared selection from the assigned works.
Read at sight a selection of prose.

SPELLING.

In determining the mark for spelling, account will be taken of the papers in literature and rhetoric.

I.

Expand the following abbreviations.

F. R. S., Q. E. D., ult., N. B., A. B., i. c., e. g., M. C., viz., inst., LL. D., aet., R. S. V. P., S. P. Q. R.

II.

What are the meanings respectively of the following prefixes? Give words in illustration of each and define the words in such way as to show the meaning of the prefixes:

Con , ex , re , sub , in , dis , ad , ab , trans , pre.

III.

Give rules for dropping of final e. What general class of exceptions?

Give rules for changing y to i.

Give rules for doubling a consonant.

Exemplify each rule and exception mentioned.

IV.

Spell a list of words pronounced by the examiner.

ENGLISH GRAMMAR.

I.

Make choice of the several forms giving the reason for the case of the chosen words:

1. All but I (me) went.
2. Trust to me (my) being on time.
3. It being he (him) who called, I will answer.
4. He (his, him) being sick, a doctor was called.
5. I know it to be he (him).
6. He is a man who (whom) I know to be honest.
7. He gave it to who (whom) he thought deserved it.

II.

Give the syntax of the italicized expressions:

- (1) He came *running home*.
- (2) It is pleasant for *men* to live peaceably.
- (3) It is pleasant *to live peaceably*.
- (4) This book is *worth a dollar*.
- (5) By *studying history* he hoped *to become a better lawyer*.
- (6) We felt it *grow colder*.
- (7) He was sorry *that he went*.
- (8) He brought *what* he found.
- (9) They painted the house *white*.
- (10) This book is yours; bring me *mine*.

III.

Fully explain and illustrate the use of *shall* and *will* in (a) assertions, (b) questions.

IV.

Fully explain and illustrate the uses of the past tense of the subjunctive mood. Comment on the correctness and on the meanings of the following, and complete the sentences: *If I was there*———, *If I were there*———.

V.

Name and explain the principal parts of a verb. Write sentences illustrating the past tense forms and perfect participles of the following: lie (recline), sit, ring, lay, set, beseech, rise, climb.

VI.

Comment on the correctness of the italicized forms. If correct, state so; if incorrect, explain the error and the correct form.

(1) The boy has my hat; I have your's. (2) *Burns'* poems. (3) One *witness's* testimony. (4) He feels *bad* to day. (5) He looks *like* he would succeed. (6) He *hadn't ought* to go. (7) Wait at *Smith* the baker's. (9) Bring me the book *which* lies on the table. (10) He intended *to have gone*.

VII.

(a) Decline in full, they, whom, ox. (b) Make plural, memorandum, radius, brother, die, index, analysis, brother-in-law, manservant, Miss Brown, nebula, beau, genus, Mr.

VIII.

Analyze in words or by diagram:

(1) There were twenty-six senators distinguished for wisdom and holding their office for six years.
 (2) We have no such laws as those by which he was tried in the state from which he came.
 (3) They said that while H. continued to be president it would be impossible for him to put forth his whole strength against the government and that to set him free would be to set him free from restraint.

IX.

Discuss the difference in meaning with reference to *time* between the present, perfect, past and past perfect tenses of the indicative mood. Give illustrations using the common and progressive forms.

X.

Discuss Voice in full.

Comment on the italicized expressions with respect to voice. If incorrect, rectify:

He *has been hurt*. Animals *eat*. John *is gone*. We *were shown* a beautiful picture.

GEOGRAPHY.

1—Name ten important exports of the United States, and tell what section or sections produce most of each.

2—Compare Europe with North America; as to area, surface, coast line, climate, flora, fauna, and mineral products.

3—Draw a relief map of North America, locating upon it the Rocky mountains, the Cascade mountains, the Height of Land and the Great Lakes, the Missouri-Mississippi river, the Columbia river, and the Appalachian mountains.

4—Compare the climate of Victoria, B. C., with that of New England, and account for the difference.

5—Define the following:—glacier, terminal moraine, lateral moraine, geyser, trade winds, monsoons, delta, plateau, steppe, volcano.

6—Give an explanation of ocean currents; name three warm and three cold currents of the globe; discuss modifications of climate due to each.

Locate the following places, and tell for what each is noted.—Norway, Iceland, Athens, Rome, Babylon, Jerusalem, St. Petersburg, Paris, Berlin, London, Boston, New York.

8—What useful minerals are found in Utah? What are the principal agricultural products of our State? How do you account for the difference in climate between Salt Lake City and St. George?

9—Account for the freshness of Utah Lake and the saltiness of Great Salt Lake.

10—Trace the shortest water route from New York to Bombay; New York to St. Petersburg; Quebec to Calcutta; San Francisco to Lisbon.

11—Give a full explanation of the following: tides, moon's phases, seasons, eclipses.

12—Draw a diagram of the solar system, showing (1) the orbits of the several planets, (2) satellites of the planets, and (3) the path described by the moon as it travels (accompanying the earth) around the sun.

PHYSIOLOGY.

1. Define the term *tissue*, and name the tissues of the human body, stating the use of each one named.

2. Give an extended description of the blood, speaking of its constituents and the causes of its clotting.

3. What can you say of the composition of bones and cartilages? Name and locate the bones of the head. Into what classes may cartilages be divided? Name some cartilages belonging to each class.

4. What can you say of the anatomy and histology of muscles? Into what classes may muscles be divided? How do these classes differ in their relation to the nervous system?

5. Give a general account of the anatomy and physiology of the nervous system. How is the nervous system affected by stimulants and narcotics?

6. Draw an outline illustrating the principal arteries and veins of the body. Name the more important arteries, and explain what is meant by the portal circulation. What is and what causes arterial pressure?

7. Trace the digestion of a meal consisting of bread, butter, cheese, lean meat, and rice.

8. Explain the respiratory mechanism of the human body. What is the use of respiration? How is oxygen carried over the body?

9. Explain the Lymphatic System. What do you understand by the Ductless glands? Of what use are they?

10. Show the structure of the eye by drawings. What is the use of each part?

Choose any 8 questions.

ALGEBRA.

1. Reduce to simplest form: $\frac{x}{1+x} + \frac{1-x}{x}$; also $2 - \frac{x-1}{x}$
 $\frac{x}{1+x} - \frac{1-x}{x}$ $x - \frac{x}{1+x}$
2. Find L. C. M. of, $x^2+4xy+4y^2$, $x^2+xy-2y^2$, x^3+8y^3 .
 Find L. C. M. of, $12m^2-21m-45$, $4m^3-11m^2-6m+9$.
3. Find H. C. F. of, $x^2-6x-27$, x^2+6x+9 , x^3+27 .
 Find H. C. F. of, $3a^4+5a^3+12a^2+8$, $6a^4+10a^3+19a^2-10a-4$.
4. Write the 5th term of the expansion of $(x-y)^n$. Expand $(a+b)^7$ by the binomial theorem—leaving all your work.
5. Find the values of x and y from these equations:
 $\frac{x+y}{x-y} = \frac{1}{m-n}$; $\frac{x+m}{y+m} = \frac{1+m}{1+n}$
6. Prove $x^0=1$; also $a^{-n} = \frac{1}{a^n}$
7. Express with positive exponents and simplify:
 $\left(\frac{y-3}{x^{\frac{1}{2}} z^{-1}}\right)^{-\frac{3}{2}} \times \left(\frac{y^{\frac{1}{3}} x^{-1}}{z^{-\frac{2}{3}}}\right)^{\frac{2}{3}}$
8. Prove: If four quantities are in proportion, they are in proportion by composition.
 Note.—Verification is not proof.
9. A man bought 6 ducks and 2 turkeys for \$15. For \$14 he could buy 4 more ducks than he could turkeys for \$9. Find the price of each.
10. A farmer having sold, at \$75 each, horses which cost him x dollars apiece, finds that he has realized x per cent. profit on his outlay. Find x .

RHETORIC.

The mark in spelling and in rhetoric with respect to language, paragraphing, capitalization, punctuation, etc., will be determined partly by this paper and the paper in literature.

I.

Point out the figures of speech in the following and define each figure.

- (1) Her (England's) commerce whitens every sea. (Two figures.)
 (2) No pain, no palm; no thorns, no throne; no cross, no glory. (Three figures.)
 (3) Life is an isthmus between two eternities. (One figure.)

II.

Explain the difference between purity, propriety, and precision. Comment on the following with reference to diction: When you return will you fetch me a book? She was dressed in a costume made *a la mode* with a *soupeon* of green in the trimming and some aged jewelry on the collar. Who was the fat old party who kept us laughing?

III.

Explain and illustrate eight uses of the comma.
Explain and illustrate two uses of the semicolon.
Explain and illustrate two uses of the colon.

IV.

Explain and illustrate periodic, loose and balanced sentences.

V.

Explain the structure of a paragraph.
Write a paragraph of not fewer than 250 words illustrative of argumentative discourse.

VI.

Point out the rhetorical fault in each of the following and rewrite in corrected form:

(1) No one can be truly holy, or manifest a thoroughly lowly character in this corrupted life.

(2) Their march was through an uncultivated country, whose savage inhabitants fared hardly, having no other riches than a breed of lean sheep, whose flesh was rank and unsavory, by reason of their continual feeding upon sea fish.

(3) Preparing for his examinations, I had often to rise from my own bed to urge him to retire to his.

(4) You desire to sell me some matches? I do not wish to purchase. The sooner you withdraw your obnoxious presence the better.

VII.

Comment on the italicised expressions with respect to proper use. If any expression is incorrect, rewrite it.

- (1) The *above* remarks.
- (2) The day is *about* done.
- (3) His bad conduct *aggravated* his teacher.
- (4) He reached the *climax* of his ambition.
- (5) His fever was *due* to impure water.
- (6) What a *nice* day this is!
- (7) He took *lunch* at one o'clock.
- (8) He *had better* go.
- (9) He *graduated* from college last year.
- (10) He *located* in the west.

VIII.

Discriminate between the words in the following pairs. Write sentences properly illustrating the use of each, respectively:

- (1) custom, habit.
- (2) cheap, low-priced.
- (3) loan, lend.
- (4) propose, purpose.
- (5) practical, practicable.

IX.

Write a business letter ordering a bill of goods, complaining of poor articles previously sent, and making inquiry regarding routes of shipping.

BOTANY.

1. Trace the development of a plant from the seed until the plumule is formed.
2. Describe and discuss the various forms of leaves, and their various modifications.
3. Explain the physiology of the fertilization of ovules, and describe the several ways in which this is accomplished.
4. What is meant by a plant cell? Discuss the physiology of plant growth.
5. Describe and illustrate by drawing the anatomy of the exogenous and endogenous stem.
6. Explain the common system of plant classification.
7. Classify the more common trees and name herbs most nearly related to them.
8. Name five natural orders of plants and give their characteristics. Name as many plants as you can belonging to each of these orders.

CIVIL GOVERNMENT.

1. Write a brief paper on the history of town meetings.
2. Explain the relations of the national and state governments to each other and the difference in their powers.
3. Compare each of the following with the American Union, and name the elements of likeness and difference, commenting upon each.
The Athenian democracy under Clisthenes; The Achæan League; The Republic of Rome; The Roman Empire; The Swiss Confederation; The present Republic of France.
4. What are the fundamental differences between the English and the American Constitutions?
5. Explain the following: Magna Charta, Bill of Rights, Petition of Rights, Habeas Corpus.
6. Give a concise explanation of (a) the American Federal judicial system; (b) State judicial systems; (c) local (precinct or municipal) administration of justice. State the relations of each system to the others.
7. Give the history of a bill introduced into Congress, from the time of its introduction until it has become a law.
8. Name the different steps taken in the election of a president of the United States.

9. Explain very fully the principles of state and popular representation in Congress.
 10. State in a general way the facts, principles and effects of the "Dred Scott" decision.
 11. Write on (a) *Referendum*, and (b) *Admission of New States*.
 12. What is your opinion of the dictum of Bentham, that Legislation is the source of right and wrong?
 13. Give reasons for or against the control of industrial enterprises by the government.
 14. Explain the difference between a protective tariff, and a tariff for revenue.
 15. What do you consider the most important national issue in the U. S. at the present time? Give reasons.
 16. What takes place in England when the government loses an important measure? What is the "appeal to the country?"
- Take the first 6 questions and choose 4 from the remaining 10.

EXAMINATION QUESTIONS.

1898

GRAMMAR.

1. Analyze and diagram each of the following: 1. There are plain signs that the Indians have passed this way. The scout returned slowly to where the party stood waiting. 3. He was ordered to leave the room. 4. "Making so much noise," said the scout, turning to the singer, "is unwise." 5. John is older than James but not so tall.
2. Write the plural forms of the following: Thief, German, Englishman, pail-ful, solo, goose-quill, datum, phenomenon, stratum, nebula, hero, tableau.
3. Write the following verb forms, using *see*. 1. Indc. Mode. Pres. Perf. tense. Progressive form. Third Sing. 2. Potential mode, Pres. tense Common form, showing necessity. 3. Subj. mode, Past tense, Passive form. Imperative mode, all possible tenses and persons.
4. Fully explain the use of *shall* and *will* in (a) assertions and (b) questions.
5. Distinguish the difference in meaning, with reference to time, between Pres. Perf., Past, and Past Perf. tenses of the Indicative mode.
6. Give examples of the correct use, in the three cases, sing. and plural, of all the personal and relative pronouns that vary in form for the different cases.
7. Fill in each of the following blanks with the proper pronoun, and analyze each sentence as completed:
 - 1 He is a man———I know to be honest.
 - 2 He is a man———I know is honest.
 - 3 ———do men say that I am?

- 4 ———do you think they will select?
 5 It is to be divided between you and——(First person; sing.)
 8. Explain and illustrate the uses of the present and past tenses of the subjunctive mode.
 9. Correct, giving reasons: 1. If she were at the reception, I did not see her. 2. I do not like those sort of people. 3. I think he ought to have gone to-morrow. 4. It don't seem possible that everybody has performed their examples. 5. I did it like he does.
 10. Discuss voice in full, comment on the italicized expressions with respect to voice. If incorrect, rectify: He *has been hurt*. Animals *eat*. John *is gone*. We *were shown* a beautiful picture.

PHYSICAL GEOGRAPHY.

1. Draw a relief map of North America.
2. Describe the animal and vegetable life of Greenland and Cuba, giving reasons for differences.
3. Compare Europe with North America, as to area, surface, coast line, climate, flora, fauna, and mineral products.
4. Explain the formation of mountains, by folding, by fracture, by erosion, and by eruption.
5. Explain fully an ocean current. Name three great ocean currents and describe the course of each.
6. Explain the phenomena of springs, geysers, typhoons, and cyclones.

PHYSIOLOGY.

1. Show how you would arrange an ordinary school so as to secure the best light, ventilation, temperature and comfort for the pupils. Use diagrams if necessary.
2. Describe fully the changes which the air and blood undergo in respiration.
3. Describe the different ways that impurities are removed from the blood.
4. State as fully as possible the physiological reasons for physical exercise.
5. Name the structures or parts of the body that are developed from each of the three primitive germ layers of the ovum.
6. Describe the structure, arrangement, location and functions of the sympathetic nervous system.
7. Tell what you know of Cerebral Localization and locate definitely the Motor Cortical Zone.
8. What are the most common functional defects met with among school children? How would you detect them?

DRAWING.

1. Give two uses for the horizon line and two uses for the centre of vision in drawing.
2. Draw a box below and at the left of the eye and remove the front, bottom and back.
3. Draw a cube in oblique perspective below the level of the eye and remove a small cube from the nearest corner.
4. Place a box before you and draw it as it appears to you.
5. Place a hat before you and draw it.

Note. Describe the positions of the objects in 4 and 5 with respect to yourself.

6. Draw three cylinders, one vertical, one horizontal, and one receding.

COLOR.

7. What do you understand by a scale of color. Name the colors that form a scale.

8. What is a tint, a shade, a normal or pure color?

9. What do you understand by broken colors, local colors, warm and cold colors, a normal gray, colored gray?

10. How would you teach color?

MECHANICAL.

11. Draw the top, side and end views of a box 1" x 2" x 3".

12. Make an isometric drawing of the same. Also a cabinet drawing of the same.

13. Make top, side and section view of a common spool.

DECORATIVE DESIGN.

14. Draw a conventionalized boxelder, oak or rose leaf.

RELIEF.

15. Draw an island containing a range of mountains.

16. Draw a lake and in it show an island, a boy, a bluff, an inlet and an outlet.

NATURE STUDY.

1. Explain fully the anatomy and physiology of a bud. Name and define the principal classes of buds.

2. Give a careful description of the box-elder tree. Name the principal points of its difference from the elm.

3. Outline a series of lessons on the bean, on the ant, on the cat, and on a water-worn stone.

4. Give the life history of a butterfly.

5. How are flowers benefited by insects and how are insects benefited by flowers?

6. Explain the chemistry and physics of the burning of a lamp.

7. Show that street cars moved by electricity generated by a waterfall are moved by force derived second hand from the sun.

8. Trace the changes of the moon from new to old explaining each step.

9. Explain what is meant by "morning" and "evening" stars and how it is that the same planet may at one time be a "morning" star and at another time an "evening" star.

10. How do spiders differ from insects?

11. How can you tell a lime stone from a sand stone?

12. How can you tell a stratified rock from an igneous rock? from a metamorphic rock? Clearly define each class.

Answer any eight of the above questions.

RHETORIC.

I.

Point out and comment upon the figures in the following:

1. He owns a hundred head of cattle.
2. "Tess had never before known a time in which the thread of her life was so distinctively twisted of two strands, positive pleasure and positive pain."
3. I have night's cloak to hide me from their sight.
4. "Their great guilt, like poison given to work a long time after, now 'gins to bite their spirits."

II.

Explain and illustrate periodic, loose, and balanced sentences.

III.

Discuss the unity of the paragraph.
Write several paragraphs of descriptive prose.

IV.

Discriminate between the words in the following pairs. Write a sentence illustrating the use of each word: 1. Cheap, low-priced. 2. Propose, purpose (verb). 3. Practical, practicable. 4. Pitiful, pitiable. 5. Grand, beautiful. 6. Awful, terrible.

V.

Write a letter to the State Superintendent of Public Instruction, to inquire regarding a position as teacher in the public schools.

VI.

Explain and illustrate five uses of the comma, two of the semi-colon, two of the colon, two of the dash, and one of the colon and dash.

VII.

Discuss Force, Clearness, and Beauty as qualities of style.

VIII.

Discuss critically the style of the following:
"The grey half-tones of daybreak are not the grey half-tones of the day's close, though the degree of their shade may be the same. In the twilight of the morning, light seems active, darkness passive; in the twilight of evening, it is the darkness which is active and crescent, and the light which is the drowsy reverse."

IX.

Name and comment upon the essentials of poetry.
Point out all the elements in the following that make it poetry.

"Flower in the crannied wall,
I pluck you out of the crannies;
Hold you here, root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

PHYSICS.

1. Define: fluid, dynamics, energy, dyne, momentum, *natural law*, electrical induction, potential energy, hydrometer, and spectrum.

2. Two trains of cars have equal momenta. The first has a weight of 725 tons and moves 20 miles per hour; the second moves 15 miles per hour. What is the weight of the second train?

3. What would a body which weighs 150 lbs. at the surface of the earth weigh if it were removed to the distance of the earth's radius?

4. A sea-coast gun is mounted 100 feet above the level of the water. What is the range of a shot from this gun which leaves the gun with a velocity of 2,000 feet per second?

5. Sugar which weighs 12 lbs. in one pan of a false balance, weighs $14\frac{1}{2}$ lbs. in the other pan. What is the true weight of the sugar?

6. Draw a set of pulleys by means of which 100 lbs. will support a weight of 1,000 lbs. A force of 800 dynes acts on a mass for one second and gives it a velocity of 15 c. m. per second. What is the weight of the mass in kilograms.

7. A bottle which holds 1 lb. of water holds 8 lbs. of alcohol. Over how high a ridge may alcohol be carried in a siphon when the barometer stands 755 m. m.?

8. How may electricity be generated? Explain the following terms as applied to electricity: tension, potential, conductor, polarity, disruptive discharge, electroscope, Ampere, Ohm, cell, E. M. F.

9. Explain the working of the Toepler-Holtz machine or of some battery.

10. Explain the working of a telephone and illustrate by drawings.

11. Tell what is meant by latent and specific heat. What effect has the specific heat of water on climate?

12. What is a lens? Explain the formation of real and virtual images. What is spherical aberration? How is it overcome in telescopes and microscopes? Answer the same question about chromatic aberration.

13. What is meant by absolute zero? At absolute zero what temperature would be indicated by a Centigrade thermometer? Change this temperature into Fahrenheit degrees.

14. Explain the principle of the ice cream freezer.

15. A given weight of air measures 2 liters at 0 C. How much will the air increase in volume if it is heated to 75° C?

16. What is sound? How is it produced? How is it propagated? What is its velocity?

17. A string vibrates 150 times per second. How often will it vibrate if it is shortened by half? If it is made twice as heavy?

Candidates for Grammar grade certificates take any 8 questions; candidates for Grammar or High school diploma take 10.

ALGEBRA.

1. Find the H. C. F. of, $2a^3-3a^2b-5ab^2+6b^3$, $2a^3+3a^2b-8ab^2-12b^3$, and $2a^3-a^2b-12ab^2-9b^3$.

2. Find the L. C. M. of, $4a^2-6ab-18b^2$, $4a^3+4a^2b-3ab^2$, and $6a^4+5a^3b-6a^2b^2$.

3. A certain sum of money, at simple interest, amounted in m years to a dollars, and in n years to b dollars. Required the sum, and the rate of interest.

4 and 5. Solve the following equations:

$$(a) (2x+5)^{-5}+31(2x+5)^{-\frac{3}{2}}=32.$$

$$(b) \sqrt{x^2+2x+9}=x^2+2x+3.$$

6. Solve the following equations:

$$x - \frac{2ab}{y} = a.$$

$$y - \frac{2ab}{x} = b.$$

7. A rectangular garden is surrounded by a walk 7 feet wide; the area of the garden is 15,000 square feet, and of the walk 3696 square feet. Find the length and breadth of the garden.

8. Define *imaginary quantity*, and perform the following operations as indicated: Multiply $4+3\sqrt{-2}$ and $2-5-\sqrt{-2}$.

Divide $\sqrt{-294}$ by $\sqrt{-3}$.

9. (a) Find a fourth proportional, to $\frac{3}{4}$, $\frac{5}{8}$ and $\frac{7}{8}$. (b) Find a third proportional to $\frac{3}{4}$ and $\frac{5}{8}$.

10 Find four integers in arithmetical progression such that their sum shall be 24, and their product 945.

PLANE GEOMETRY.

1. Define a plane, an angle, a point, a line and a right angle.

2. Of how many parts does a theorem consist? Name them and define each. Point out each part in this theorem. (All right angles are equal.)

3. Explain what is meant in geometry by similar, equivalent and equal figures.

4. Prove the converse of, The opposite sides of a parallelogram are equal.

5. A horse is tied to a stake with a tether 10 feet long. How long is the tether at another time when he can feed over only three-fourths as much ground?

6. If any two cords be drawn through a fixed point within a circle, the product of the segments of one chord is equal to the product of the segments of the other.

7. Given one of the equal sides, and one of the equal angles of an isosceles triangle, to construct the triangle.

8. How many sides has a polygon the sum of whose interior angles is double that of its exterior angles?

SOLID GEOMETRY.

1. At what distance from the apex of a right cone must a plane be passed, parallel to the base, to divide the volume of the cone into two equal parts?

2. When is a line perpendicular to a plane?

3. Show that the surface of a sphere and the lateral area of its circumscribed cylinder are equal.

4. Prove: In two polar triangles, each angle of the one is the supplement of the side opposite in the other.

5. The sum of any two face angles of a trihedral angle is greater than the third face angle.

6. Find the area of the surface and the volume of a sphere, inscribed in a cube the area of whose surface is 486.

Note. If π is involved in the solution of the 6th do not substitute any numerical value for it. Leave it in the result.

TRIGONOMETRY.

1. What is meant by the logarithm of a number, n , in a system whose base is 8? What will be the logarithm of 4 in this system?

2. In a triangle two angles are $32^\circ 47'$ and $49^\circ 28'$ and the length of the included side is 7.2. Solve the triangle.

3. At 120 feet distance, and on a level with the foot of a steeple, the angle of the elevation of the top is $62^\circ 27'$. Find the height.

4. Find the values of x below 360° that will satisfy the equation,

$$\sqrt{8\cos 2x} = 1 - 2\sin x.$$

5. What is the base of the system of logarithms when $\log 3 = 0.3976$?

6. Establish the formula $\cos \frac{1}{2} x = \pm \sqrt{\frac{1 + \cos x}{2}}$

$$\text{and } \sin \frac{1}{2} x = \pm \sqrt{\frac{1 - \cos x}{2}}$$

BOTANY.

1. Give scientific definitions of the terms flower, fruit and seed.

2. Tell what is understood in Botany by the terms Typical, Perfect, Complete, and Regular, as applied to the flower.

3. Write in order the names of the families to which the following common garden plants belong: Onion, carrot, beet, lettuce, radish, cabbage, potato and Indian corn (Maize).

4. From an economic standpoint, which is the most important family of plants? Give reasons, and name all the useful plants you know which belong to the family.

5. Describe the common ways of seed distribution and give examples of each.

6. Give the essential characteristic differences between the grasses and the sedges.

7. Define Pollination and Fertilization. Mention the different agencies that assist in pollination, and give examples of each.

8. What are Bacteria? Why are they classed as plants? Why are they considered of so much importance?

9. Define the vegetable cell and describe the different modes of formation of new cells among plants.
10. What are the values of the comparative study of plants? Give the scheme of systematic grouping employed by Botanists.

CIVIL GOVERNMENT.

1. Discuss *taxation* as a chief power of government: (a) Purpose of taxation. (b) How power to tax is acquired. (c) Manner of collection. (d) Use and misuse of public funds.
2. Write briefly on town meetings: (a) history, (b) in New England, (c) part played in Am. Revolution, (d) place in present local governments.
3. Discuss City (and Township), County and State, governments, in their relations to each other.
4. Discuss the "principle of representation" in National government. (a) Among what historic people does it first appear? (b) How does it work in England? In America? (c) What advantages and what disadvantages in a representative government?
5. Discuss fully The Government of Cities in U. S.
6. Explain the following:—Magna Charta, Bill of Rights, Habeas Corpus.
9. Discuss the American jury system: (a) origin and history, (b) grand jury—appointment of jurors, powers and duties, (c) petit juries—selection of jurors, powers and duties.
10. What is "common law?"
11. Give in brief the provisions of the Utah State Constitution regarding: (a) education, (b) government of counties, (c) government of cities, (d) elections, and (e) fees and salaries.
12. (a) What kind of cases may be appealed from State, to U. S. Supreme Court? (b) Give the history of an imaginary case begun in the District Court of the State and appealed to U. S. Supreme Court.
- Choose 10 questions.

LITERATURE.

Answer the first five and three chosen from the last five.
The mark in spelling, also in Rhetoric with respect to language, paragraphing, punctuation, etc., will be determined partly by the paper submitted in Literature.

I.

Name three prominent authors of each of the following periods together with one masterpiece written by each: (a) Elizabeth, (b) Commonwealth, (c) Restoration, (d) Queen Anne or Augustan period, (e) The latter half of the XVIII century, (f) The early part of the present century.

II.

Give an outline of *Canterbury Tales*.

III.

Discuss the development of the drama in England from the beginning up to, and including the time of Shakespeare.

IV.

Sketch briefly the peculiarities and development of poetry from 1625 to 1800.

V.

Name one pre-revolutionary author and name his chief literary productions.

Name eight American authors born before 1810, and mention at least three literary productions of each. Indicate which of the productions named you have read.

VI.

Write briefly the argument of book II. of *Paradise Lost*.

VII.

Reproduce Macaulay's argument to show the limitations of Addison's classical learning.

OR

Write a short paper explaining and criticizing the literary work of Addison.

VIII.

Briefly characterize Cromwell as portrayed in *Woodstock*.

OR

Briefly characterize Charles II. as portrayed in *Woodstock*.

IX.

Tell the story of the unsuccessful and the successful choosing of the caskets in *Merchant of Venice*.

X.

What moral truth does Lowell teach in the *Vision of Sir Launfal*? How does he teach it.

If the candidate has studied equivalent pieces instead of the pieces named, approved by the examiner, questions on the substitutes will be asked.

ZOOLOGY.

1. Name the sub-kingdoms into which the animal kingdom is usually divided; state the characteristics of each one, and name several animals characteristic of each.

2. What conditions are most favorable for the life and rapid increase of the infusorians?

3. Give the life history of some parasitic worm.

4. Name and describe some of the more common forms of Entomostracans.

5. How do the insects differ from the arachnids? Name and describe six orders of insects. Classify: the house fly, the bee, the ant, the aphid, the dragon-fly, the butter-fly and the grasshopper.

6. Name and give the characteristics of the several classes of Vertebrates. Name specimens of each class.

7. Give the life history of some Batrachian.
8. Name and describe six orders of birds. Name four birds belonging to each order named.
9. Name and characterize six orders of mammals, naming four specimens belonging to each order named.
10. Give a short account of the Geographical Distribution of Animals.
11. What is meant by "Protective Resemblance" and "Mimicry" among animals.
12. What do you understand by *Survival of the Fittest* or *Natural Selection*?

GENERAL HISTORY.

1. What evidence have we that the Greeks were influenced by the ancient civilizations of the East? What Asiatic peoples were known to the Greeks, about 500 B. C?
 2. (a) Name and discuss the chief characteristics common to all the Greek States before the time of Solon. (b) What constituted citizenship in the Athenian State previous to Solon? (c) What important changes were embodied in Solon's laws? (d) Discuss each of these changes.
 3. Give the principal causes of the Persian wars. Discuss their immediate and remote consequences.
 4. Give a brief account of Alexander's conquests, and discuss their permanent effects upon civilization.
 5. (a) Name the different social classes in Rome before the period of the Republic. (b) Who were Roman citizens at that time? (c) Describe the Roman family. (d) What had religion to do with social and political unity in early Rome?
 6. Give briefly the history of the enfranchisement of the plebs in Rome.
 7. Compare the Republic of Rome with the Athenian democracy under the constitution of Clisthenes.
 8. Discuss the elements of strength and weakness in the Roman empire.
 9. Discuss briefly the influence of Rome upon (a) Christianity, (b) Grecian thought, (c) the Teutonic invaders of the empire, (d) modern jurisprudence, and (e) modern civilization in general.
 10. Give a concise account of the feudal system. How did it come into existence?
 11. In what country did the feudal system endure longest, and what effect did it have upon that country?
 12. Write on The Crusades, discussing causes, magnitude, purposes, and effects—religious, political, social, industrial, moral, and intellectual—upon western civilization.
 13. Compare and contrast the Protestant Reformation in Germany with the Reformation in England.
 14. Name and discuss the most important stages in the development of the English constitution.
 15. Discuss the constitution of the United States, from the point of view of world history.
 16. Write a short essay on any one of the following topics—The Unification of Germany, the expulsion of the Moors from Spain, the French Revolution, the "Eastern Question," international arbitration, the English colonial system.
- Take 1, 2, 4, 5, 8, 9, 10, 12, 15, and 16, and choose two from the remaining six questions.

BIOLOGY.

1. What is Biology? Minutely describe a cell, and trace the several steps of cell division.
2. Outline the biology of the common earth worm. (Some other form may be substituted.)
3. Give the biology of the fern. (Some other plant may be substituted.)
4. Give a description of yeast. What is its relation to bread making? to beer making?
5. What are bacteria? What can you say of their habits of life and their modes of reproduction?
6. Explain the difference in the mode of growth of a chlorophyll bearing plant and one without chlorophyll.
7. Give the life history of some common algæ. What are diatoms and desmids?

GEOLOGY.

1. What is meant by Dynamical Geology? What natural agencies are now modifying the surface of the earth? Explain the nature of the work done by each of these.
2. What forms of animal life were characteristic of the Silurian Age! Compare and contrast these with Devonian forms.
3. How do you explain the action of volcanoes and geysers? What can you say of the distribution of volcanoes?
4. Discuss the nature and causes of earthquakes.
5. What are the geological evidences of the relationship between birds and reptiles? In what age are the earliest true birds found? How do these differ from modern birds?
6. Give a general description of the mammalian life of the Quaternary Period.
7. How was coal formed? In what geological age was Utah coal formed?
8. How are mountains formed? How are they modified by water?
9. In what order does Palæontology show that animal life appeared on earth?
10. Explain fully what is meant by the Glacial Epoch.
11. What do we *know* of the geological history of man?

Answer any ten of the above questions.

HISTORY AND SCIENCE OF EDUCATION.

1. What was the main purpose of Greek education? In what respects did it differ most from (a) the education of the Middle Ages, (b) modern education.
2. How did the Athenian youth get his training for citizenship? Write briefly of the adequacy of such training.
3. What is the Socratic method? Illustrate by giving the outline of a recitation conducted according to the Socratic method?
4. Compare the educational ideas of Aristotle with those of Plato.
5. Compare and contrast Roman with Greek education.
6. What was the immediate effect of Christian teaching upon the educational philosophies and practices of the early Christian

period? What has been the permanent effect of such teaching—i. e., what elements lacking in the ancient ideals have been supplied by Christianity?

7. Write briefly on Scholastic Education.

8. Tell what you can of the rise and development of the modern scientific spirit. In this connection discuss (1) the work of each of the following—Roger Bacon, Copernicus, Francis Bacon, Comenius, Isaac Newton, Descartes, Kant, Locke, Darwin; (2) the inductive method, scientific experiment, the difference between the methods of Aristotle, Bacon, and Darwin, and the effects of scientific investigation and discovery upon educational ideals.

9. What, in your opinion, is the keynote of Pestalozzi's success as an educator?

10. Write briefly on the educational philosophy of Frœbel.

11. Compare the educational ideas of Frœbel with those of Herbert Spencer.

12. Discuss Herbert Spencer's treatment of the question, "What knowledge is of most worth?"

13. Name and discuss three influences that help to determine educational ideals from without.

14. What is your idea of the proper correlation of the subjects of instruction?

15. Give reasons for or against the use of translations by the student in the study of languages.

16. Discuss the following proposition: Instruction should begin with large wholes, and proceed by analysis and synthesis.

Choose 10 questions.

PSYCHOLOGY.

1. How can facts of mind be distinguished from facts of matter? In what sense is the objective world what each individual thinks it?

2. What is the psychic relation of the individual to the society in which he lives? What meaning do you attach to the expression, "the social self?"

3. Discuss imitation; (a) its function in the mental development of children; (b) its operation in times of great social and political excitement and change; (c) its evil consequences when abnormally developed.

4. In the mental life, does association precede disassociation, develop parallel with it, or follow after it? Give reasons.

5. Give definitions of perception and conception. How are they related to each other?

6. Discuss *imagination, memory, fancy, delusion, illusion*, giving examples of each.

7. Discuss the relation of feeling to thought and to will. What can you say for or against the division of mind into Intellect, Feeling, and Will.

8. Discuss the following terms, giving a paragraph to each: *Heredity, instinct, reflex action, intuition, automatic action, habit, emotion*.

9. What physiological processes go on in the performance of a habitual action? A deliberative action? An imitative action?

10. What is suggestion? What has suggestion to do with the phenomenon of hypnotism?

11. What is the difference between volition without choice and volition with choice.
 12. Discuss the character of *Hamlet*, from the point of view of psychology?
 13. How may child-study aid the science of psychology?
 14. Discuss the following: — psychophysics, psychogenesis, psychometer, Weber's Law, association time, simple reaction time.
 15. Write on the Unity of Mind.
- Choose 10 questions.

THE UNIVERSITY.

The University of Utah comprises a School of Arts, Literature, Philosophy, and Science, or the University Proper; a State School of Mines; and a State Normal School. In the first school the courses lead to the degrees of Bachelor of Science and Bachelor of Arts. All the work in these courses is elective except freshman mathematics, one year's work in physics, and freshman and sophomore English; provided the applicant for the degree of Bachelor of Science shall elect half the amount of work required for a degree from the scientific subjects offered; and provided the applicant for the degree of Bachelor of Arts shall choose at least one half the work from languages, literary, and philosophical subjects. In the School of Mines there are two courses, the mining engineering course and the electrical engineering course. The first leads to the degree of Bachelor of Science in Mining Engineering and the second to the degree of Bachelor of Science in Electrical Engineering.