

OSSTET (2nd) Exam

**Previous Year Paper
(Science-CBZ) Paper-I
09 Feb, 2022**



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No. of Printed Pages : 72
Total No. of Questions : 510
Questions to be answered : 150

OSSTET
2021 (2nd)
PAPER - I

Question Booklet Sl. No.

101424

SET : **D**

Time : 2 Hours 30 Minutes

Full Marks : 150

Roll No. (in figures): _____

(in words) : _____

Date of Exam. : _____

Centre Name : _____

Centre Code : _____

**PLEASE READ THE INSTRUCTION PRINTED ON THE
BACK OF THIS BOOKLET**

The candidates are required to answer all the Sections in the OMR Answer Sheet.

This Booklet is to be taken away by the candidates after examination is over
and the OMR Answer Sheet to be handed over to the Invigilator(s) concerned.

**THIS BOOKLET CONTAINS FOUR SECTIONS
(SECTION - I TO IV)**

SECTIONS	SUBJECTS	NO. OF QUESTIONS	FULL MARKS
A : Section-I	Odia (Compulsory for all Streams)	1-20=20	20
A : Section-II	English (Compulsory for all Streams)	21-40=20	20
B : Section-III	Optional (any one group/ subject to be chosen)	41-100=60	60
	Arts : Odia + English + History & Political Science + Geography & Economics	41-100=60	60
	Science (PCM) : Physics + Chemistry + Mathematics	41-100=60	60
	Science (CBZ) : Chemistry + Botany + Zoology	41-100=60	60
	Classical Sanskrit	41-100=60	60
	Urdu	41-100=60	60
	Telugu	41-100=60	60
C : Section-IV	Hindi	41-100=60	60
	Compulsory for all streams : Child Development, Pedagogy, School Management & Evaluation	101-150=50	50

SET - D

A - SECTION - I
ODIA (COMPULSORY)

ପ୍ରବନ୍ଧ ଅନୁଛେଦଟି ପାଠ କରି ପ୍ରଶ୍ନ (ନଂ 1 ରୁ 5 ପର୍ଯ୍ୟନ୍ତ) ଗୁଡ଼ିକର ଉତ୍ତର ଦାନ୍ତ :

୧୯୪୭ ଫେବୃଆରୀରେ ଚୀନ୍ ଦେଶର ନେତା ମାଣ୍ଡାଲ୍ ତିଆଙ୍ଗ୍ ବାରଦିନିଆ ଗସ୍ତରେ ଭାରତ ଆସିଥାନ୍ତି । ଯୁଦ୍ଧ ବିଷୟରେ ଭାରତର ବଡ଼ ଲାଟକ୍ ସହିତ ଆଲୋଚନା କରିବା ତାଙ୍କର ଲକ୍ଷ୍ୟଥାଏ । ଏହି ଅବସରରେ ଗାନ୍ଧିଜୀ ଓ ଜବାହରଲାଲ୍ ସହିତ ଭେଟିବାର ଆଗ୍ରହ ରଖି ସେ ଆସିଥାନ୍ତି । ଦୁହେଁଙ୍କ ସହିତ ତିଆଙ୍ଗ୍ଙ୍କର କଥାବାର୍ତ୍ତା ହେଲା । ଭାରତରୁ ତାଙ୍କର ବିଦାୟବାର୍ତ୍ତାରେ ମାଣ୍ଡାଲ୍ ତିଆଙ୍ଗ୍ କହିଗଲେ ଯେ ବ୍ରିଟିଶ୍ ସରକାର ଯଥାଶୀଘ୍ର ଭାରତକୁ ରାଜନୈତିକ କ୍ଷମତା ପ୍ରଦାନ କରନ୍ତୁ । ତେବେ ଭାରତ ଜାପାନ ବିରୁଦ୍ଧରେ ଶକ୍ତି ଖଟେଇ ଲଢ଼ିବ । ଜାପାନ ଯୋଗୁ ଚୀନରେ ମଧ୍ୟ ଆତଙ୍କ ଖେଳି ଯାଇଥାଏ । ଏକଥା ଆମେରିକା ମଧ୍ୟ ବୁଝିଥାଏ ଓ ଇଂଲଣ୍ଡ ଉପରେ ତାପ ପକାଉଥାଏ । ଦ୍ଵିତୀୟ ବିଶ୍ଵଯୁଦ୍ଧରେ ଆମେରିକା ଓ ରଷିଆ ଇଂଲଣ୍ଡ ପଟେ ରହି ଲଢ଼ୁଥାନ୍ତି । ରଷିଆ ଓ ଜର୍ମାନ ମଧ୍ୟରେ ସୁସମ୍ପର୍କ ଥିଲା । ବିଜୟ ଉଲ୍ଲାସରେ ମଉହୋଇ ହିରଲର ରଷିଆ ଆକ୍ରମଣ କରିବାରୁ ରଷିଆ ଇଂଲଣ୍ଡ ସହିତ ମିଶିଲା । କୁହାଯାଉଥାଏ, ଦ୍ଵିତୀୟ ମହାଯୁଦ୍ଧ ପାସାବାଦ ଓ ନାଜୀବାଦ ବିରୁଦ୍ଧରେ ଗଣତନ୍ତ୍ର ବାଦର ଯୁଦ୍ଧ । ଯଦି ଏପରିକଥା, ତେବେ ଯୁଦ୍ଧ ପରେ ବ୍ରିଟିଶ୍ ସରକାର ଭାରତକୁ ସ୍ଵେଚ୍ଛାରେ ସ୍ଵାଧୀନତା ପ୍ରଦାନ କରିବ ବୋଲି ଘୋଷଣା କରିବା ଉଚିତ୍ ହୁଅନ୍ତା । ଏହି ମର୍ମରେ କିଛି ଘୋଷଣା କରିବାକୁ ଆମେରିକାର ପ୍ରେସିଡେଣ୍ଟ ରୁଜଭେଲର୍ ଚର୍ଚ୍ଚିଲ୍ଙ୍କ ଉପରେ ତାପ ପକାଉଥାନ୍ତି । ବିଶେଷତଃ ଜାପାନ, ଇଂଲଣ୍ଡ ବିରୁଦ୍ଧରେ ଯୁଦ୍ଧରେ ଯୋଗଦାନ କରିବା ପରେ ଭାରତର ସହଯୋଗ ଜରୁରୀ ହୋଇପଡ଼ିଥାଏ । ପ୍ରେସିଡେଣ୍ଟ ରୁଜଭେଲର୍ କର୍ଣ୍ଣେଲ ଲୁଇସ୍ ଜନ୍ସନ୍ଙ୍କୁ ତାଙ୍କର ଦୂତ ଭାବେ ଭାରତୀୟ ନେତାଙ୍କ ସହିତ କଥାବାର୍ତ୍ତା କରିବା ପାଇଁ ପଠାଇଥାନ୍ତି । ଗୋଟିଏ ପରାଧୀନ ଦେଶକୁ ଏକ ସ୍ଵତନ୍ତ୍ର ଦେଶ ସିଧାସଳଖ ଦୂତ ପଠାଇବା ଅସାଧାରଣ ପଦକ୍ଷେପ । ରୁଜଭେଲର୍ଙ୍କ ମନୋଭାବ ବୁଝିବା ପାଇଁ ଏହି ଘଟଣାଟି ଯଥେଷ୍ଟ ।

1. ଦ୍ଵିତୀୟ ବିଶ୍ଵଯୁଦ୍ଧରେ ରଷିଆ ଇଂଲଣ୍ଡ ସହିତ କାହିଁକି ମିଶିଥିଲା ?
- (A) ଇଂଲଣ୍ଡ ସହିତ ସୁସମ୍ପର୍କ ଥିବାରୁ
(B) ନାଜୀବାଦର ବିରୋଧ ଯୋଗୁ
(C) ହିରଲର ରଷିଆ ଆକ୍ରମଣ କରିବାରୁ
(D) ରୁଷିଆ ଜର୍ମାନୀକୁ ଘୃଣା କରୁଥିବାରୁ

2. ବିଦାୟ ବାର୍ତ୍ତାରେ ମାଣ୍ଡାଲ୍ ତିଆଙ୍ଗ୍ ଭାରତକୁ ବ୍ରିଟିଶ୍ ସରକାର ରାଜନୈତିକ କ୍ଷମତା ପ୍ରଦାନ ସପକ୍ଷରେ କାହିଁକି କହିଥିଲେ ?
- (A) ଏହାଦ୍ଵାରା ଭାରତ, ଜାପାନ ବିରୁଦ୍ଧରେ ପୂର୍ଣ୍ଣଶକ୍ତିରେ ଲଢ଼ି ପାରିବ
(B) ଭାରତୀୟ ନେତାମାନଙ୍କର ରାଜନୈତିକ ଦକ୍ଷତା ଥିବାରୁ
(C) ଭାରତରେ ଗଣତାନ୍ତ୍ରିକ ଶାସନର ପ୍ରତିଷ୍ଠା ପାଇଁ
(D) ଭାରତର ସ୍ଵାଧୀନତା ସଂଗ୍ରାମକୁ ସମର୍ଥନ କରିବା ପାଇଁ
3. କ'ଣ ଘୋଷଣା କରିବା ପାଇଁ ରୁଜଭେଲର୍ ଚର୍ଚ୍ଚିଲ୍ଙ୍କ ଉପରେ ତାପ ପକାଉଥିଲେ ?
- (A) ଭାରତୀୟ ମାନଙ୍କ ସହିତ ଯୁଦ୍ଧ ବିଷୟରେ ଆଲୋଚନା ପାଇଁ
(B) ଭାରତକୁ ସ୍ଵାଧୀନତା ପ୍ରଦାନ ସଂପର୍କୀୟ
(C) ଦ୍ଵିତୀୟ ବିଶ୍ଵଯୁଦ୍ଧରେ ଭାରତର ଯୋଗଦାନ ସମ୍ପର୍କରେ
(D) ଭାରତୀୟ ବନ୍ଦୀମାନଙ୍କୁ ମୁକ୍ତ କରିବାର
4. ଚୀନ୍ ଦେଶର ନେତା ମାଣ୍ଡାଲ୍ ତିଆଙ୍ଗ୍ କେଉଁ ଉଦ୍ଦେଶ୍ୟରେ ଭାରତ ଆସିଥିଲେ ?
- (A) ପରିଭ୍ରମଣ
(B) ଭାରତୀୟ ନେତାଙ୍କୁ ଭେଟିବା
(C) ବଡ଼ଲାଟକ୍ ସହିତ ଯୁଦ୍ଧ ବିଷୟରେ ଆଲୋଚନା
(D) ଗାନ୍ଧୀଙ୍କ ସହିତ ସାକ୍ଷାତ

SET - D

5. କେଉଁ ଘଟଣାରୁ ଭାରତ ପ୍ରତି ଗୁଜଢେଲଟଙ୍କ ମନୋଭାବ ବୁଝିହୁଏ ?
- (A) ଚର୍ଚ୍ଚିଲଙ୍କ ଉପରେ ଚାପ ପକାଉଥିବା
(B) ଲୁଇସ୍ ବର୍ଦ୍ଦମଙ୍କୁ ଦୂତ ଭାବେ ଭାରତୀୟ ନେତାଙ୍କ ସହିତ ଆଲୋଚନା ପାଇଁ ପଠାଇବା
(C) ଭାରତର ସ୍ୱାଧୀନତା ସଂଗ୍ରାମକୁ ସମର୍ଥନ ଦେବା
(D) ଭାରତୀୟ ସୈନିକମାନଙ୍କ ଦକ୍ଷତା ଉପରେ ଆକ୍ଷା ରଖିବା
6. ଶୁଦ୍ଧ ଶବ୍ଦଟିକୁ ବାଛ :
(A) ସ୍ୱର୍ଗତଃ
(B) ମାୟୁ
(C) ଓଡ଼ପ୍ରୋତ
(D) ସାକ୍ଷୀଗୋପାଳ
7. ବିନ୍ଦୁ ବିନ୍ଦୁ ଜଳ ରହିଛି ତାରୁ କୁଟିଳ ବାଳେ, ତୁଷାର ବୃଷିକି ହୋଇଛି ନବ ତମାଳ ଦଳେ । - ଏଥିରେ କେଉଁ ଅଳଙ୍କାର ପ୍ରଯୁକ୍ତ ?
(A) ରୂପକ
(B) ଉପମା
(C) ଶ୍ଳେଷ
(D) ଉତ୍ପ୍ରେକ୍ଷା
8. ଭାରତୀୟ ସୈନିକମାନଙ୍କର ସାହସ ଅତୁଳନୀୟ । - ରେଖାଙ୍କିତ ଅଂଶଟି କେଉଁ ପଦ ?
(A) ବିଶେଷ୍ୟ
(B) ସର୍ବନାମ
(C) ବିଶେଷଣ
(D) ଅବ୍ୟୟ
9. ଶୋଭିବ ଉଜ୍ଜ୍ୱଳ ସତ୍ତ୍ୱେ ସଦାଶୟା,
ସରେ ଯଥା ପଦ୍ମ ପଦ୍ମେ ପଦ୍ମାଳୟା । - ଏଥିରେ କେଉଁ ଅଳଙ୍କାର ରହିଛି ?
(A) ଉତ୍ପ୍ରେକ୍ଷା
(B) ଯମକ
(C) ଉପମା
(D) ଅନୁପ୍ରାସ
10. ଅକ୍ଷିର ପଛରେ - ସମସ୍ତ ପଦଟି କ'ଣ ହେବ ?
(A) ପରୋକ୍ଷ
(B) ସମକ୍ଷ
(C) ପ୍ରତ୍ୟକ୍ଷ
(D) ବିପକ୍ଷ
11. 'ଯତି ପଢ଼ିବା' ଗୁଡ଼ିଚି କେଉଁ ଅର୍ଥରେ ପ୍ରଚଳିତ ?
(A) ମେଳଖାଇବା
(B) ପସନ୍ଦ କରିବା
(C) ବାରମ୍ବାର କହିବା
(D) ଅନ୍ୟହାତରେ ପଢ଼ିବା
12. ଖାଇବାର ପୁତ୍ର ଗଲା ମଥୁରା ପୁରକୁ - ରେଖାଙ୍କିତ ଅଂଶଟି କେଉଁ ପଦ ?
(A) କ୍ରିୟା
(B) ସର୍ବନାମ
(C) ବିଶେଷ୍ୟ
(D) ବିଶେଷଣ

SET - D

13. 'ଛଇ ଦେଖାଇବା' ଗୁଡ଼ିର ଅର୍ଥ କ'ଣ ?
- (A) ବେଶଭୂଷା ହେବା
(B) ଭଙ୍ଗା ଦେଖାଇବା
(C) ପରିଷ୍କାର ପରିଚ୍ଛନ୍ନତା
(D) ଛଳନା କରିବା
14. ନିମ୍ନୋକ୍ତ ମଧ୍ୟରୁ କେଉଁଟି ତହିଁତାନ୍ତ ଶବ୍ଦ ?
- (A) ଗଦ୍ୟ
(B) ଶିକ୍ଷ୍ୟ
(C) ଧୈର୍ଯ୍ୟ
(D) ଭୃତ୍ୟ
15. ଷଷ୍ଠକୁ ପଢା ନାହିଁ । - ରେଖାଙ୍କିତ ପଦଟି କେଉଁ ବିଭକ୍ତି ?
- (A) ଦ୍ଵିତୀୟା
(B) ଚତୁର୍ଥୀ
(C) ପ୍ରଥମା
(D) ତୃତୀୟା
16. 'ସତୀର୍ଥ' - ଏହା କେଉଁ ସମାସ ନିଷ୍ପନ୍ନ ପଦ ?
- (A) ବହୁବ୍ରୀହି
(B) କର୍ମଧାରୟ
(C) ତତ୍ପୁରୁଷ
(D) ଦ୍ଵିଗୁ
17. କେଉଁ ଶବ୍ଦରେ 'ଷଡ଼ ବିଧି' ନିୟମର ବ୍ୟତିକ୍ରମ ଘଟିନାହିଁ ?
- (A) ବସନ୍ତ
(B) ବିସର୍ଗ
(C) ବିସ୍ଥାର
(D) ଅନୁସରଣ
18. ଅଶୁଦ୍ଧି ନଥିବା ବାକ୍ୟଟିକୁ ଚିହ୍ନଟ :
- (A) ରଥଯାତ୍ରାରେ ଜନତାମାନଙ୍କର ପ୍ରବଳ ଭିଡ଼ ହୁଏ ।
(B) କୋଣାର୍କର କଳାପାଟବତୀ ମନମୁଗ୍ଧକର ।
(C) ଅଲିମ୍ପିକ୍ କ୍ରୀଡ଼ା ପ୍ରତିଯୋଗୀତାରେ ଭାରତୀୟ ବଳ ଏଥର ଅଧିକ ପଦକ ପାଇଛନ୍ତି ।
(D) ଭୁବନେଶ୍ଵର ଓଡ଼ିଶାର ବୃହତ୍ତମ ନଗର ।
19. ମଧୁବାବୁ ଏଣ୍ଟ୍ରାଂସ୍ ପାସ୍ କଲାବେଳକୁ କଲିକତାକୁ ରେଳପଥ ନଥିଲା । - ଏହା କେଉଁ ପ୍ରକାର ବାକ୍ୟ ?
- (A) ଜଟିଳ
(B) ଯୌଗିକ
(C) ସରଳ
(D) ମିଶ୍ର
20. କେଉଁ ଶବ୍ଦଟି କୃତ୍ ପ୍ରତ୍ୟୟ 'ଅ' ଯୋଗରେ ଗଠିତ ?
- (A) ଜାତ
(B) ଖ୍ୟାତ
(C) ମତ
(D) ଘାତ

SET - D

A - SECTION - II
ENGLISH (COMPULSORY)

21. I reached the station after the train _____.
- (A) has left
(B) had left
(C) had been left
(D) was leaving
22. The doctor said, "Do you have a headache now?"
- The sentence can be written in indirect speech as :
- (A) The doctor asked the patient if he had a headache then.
(B) The doctor asked the patient if he has a headache now.
(C) The doctor asked the patient if he had a headache now.
(D) The doctor asked the patient that he had a headache then.
23. He is a very intelligent boy.
- Express the meaning of the sentence in an exclamatory sentence.
- (A) What an intelligent boy is he !
(B) What an intelligent boy he is !
(C) How intelligent boy he is !
(D) How intelligent boy is he !
24. The word 'laughed' is pronounced as :
- (A) /la:ft/
(B) /la:fd/
(C) /laft/
(D) /lafd/
25. State the correct pronunciation of 'climb'.
- (A) /klaɪm/
(B) /klim/
(C) /klimb/
(D) /kleim/
26. This contract expires _____ December 31st.
- (A) on
(B) by
(C) at
(D) in
27. He has spoken to the Headmaster.
- The sentence can be written in the passive voice as :
- (A) The Headmaster has been spoken.
(B) The Headmaster had been spoken to.
(C) The Headmaster had been spoken.
(D) The Headmaster has been spoken to.

SET - D

28. He ordered for a good deal of sacred books.

Rewrite the sentence correctly.

- (A) He ordered for a good number of sacred books.
- (B) He ordered a good number of sacred books.
- (C) He ordered a good deal of sacred books.
- (D) He ordered a good number of sacred book.

29. She got _____ her examination all right.

Fill in the blank choosing a correct particle given below.

- (A) up
- (B) round
- (C) through
- (D) on

30. Neither the Headmaster nor the teachers _____ present at the meeting.

- (A) was
- (B) have
- (C) were
- (D) has

Read through the passage and answer the questions that follow choosing the correct alternatives.

Rain supplies most of the water that plants need, but unfortunately it does not always fall at the right time of the year or in sufficient quantities. Plants may stay alive if rain is scarce, but they will not yield such a good harvest of food. Thus, for centuries man has devised methods of supplementing natural supplies of water to his crops by means of irrigation. These methods vary according to the climate, the crops and the available water resources. In tropical and mediterranean countries, water is naturally brought to the crops by a network of surface ditches; this is known as surface irrigation. In surface irrigation water spreads over the surface and soaks into the ground.

Questions :

31. ... but they will not yield.

What does the word 'they' refer to ?

- (A) plants
- (B) the crops
- (C) water resources
- (D) these methods

32. What has been devised for centuries ?

- (A) Methods of irrigation
- (B) Methods to replace natural supplies of water
- (C) Methods of supplementing natural supplies of water to the crops by means of irrigation
- (D) Methods to supply water to plants in sufficient quantities

SET - D

33. What is known as surface irrigation ?
- (A) Bringing water to the crops by a network of surface ditches
- (B) A network of ditches in tropical countries
- (C) A network of ditches in mediterranean countries
- (D) Water soaking into the ground
34. What, according to the writer, is an unfortunate thing ?
- (A) Rain supplying enough water to the plants
- (B) Rain not always falling at the right time of the year
- (C) Rain falling in sufficient quantities
- (D) Rain being scarce.
35. What is the synonym of 'scarce' ?
- (A) adequate
- (B) abundant
- (C) copious
- (D) insufficient

Read through the poem and answer the questions that follow choosing the suitable alternatives given below.

She dwelt among the untrodden way
Beside the springs of Dove;
A maid whom there were none to praise
And very few to love.

A violet by a mossy stone
Half-hidden from the eye !
- Fair as a star, when only one
Is shining in the sky.

She lived unknown, and few could know
When Lucy ceased to be;
But she is in her grave, and, oh,
The difference to me.

36. What is the antonym of 'praise' ?
- (A) unpraise
- (B) impraise
- (C) exalt
- (D) dispraise
37. Identify which of the following is false.
- (A) Lucy lived close to Nature
- (B) Lucy was praised by many
- (C) Very few people loved Lucy
- (D) Lucy lived unknown to many
38. What makes the poet utter the word 'oh' ?
- (A) His grief at the death of Lucy
- (B) Others' unconcern about Lucy's death
- (C) Others' not knowing her
- (D) Others' not loving her
39. When Lucy ceased to be ...
The underlined words mean _____.
- (A) disappeared from sight
- (B) died
- (C) stopped working
- (D) left the place
40. By comparing Lucy with 'a violet by a mossy stone', the poet is drawing our attention to the _____ of Lucy.
- (A) love
- (B) beauty
- (C) innocence
- (D) dignity

SET - D

B - SECTION - III
SCIENCE (CBZ)
CHEMISTRY

41. 50 ml of H_2 diffuses out through a small hole from a vessel in 20 mins. The time needed for 40 ml of O_2 to diffuse out from the same vessel is :
- (A) 12 min
(B) 64 min
(C) 8 min
(D) 32 min
42. Which of the following ion is the smallest in size ?
- (A) N^{3-}
(B) Na^+
(C) F^-
(D) O^{2-}
43. According to Le-Chatelier's principle maximum yield of ammonia is obtained at :
- (A) High temperature and low pressure
(B) High pressure
(C) Low temperature
(D) Low temperature and High pressure
44. The oxide of a metal contains 40% oxygen. If the valency of the metal is 3, its atomic mass will be :
- (A) 8
(B) 16
(C) 36
(D) 24
45. The refining of Nickel metal is done by :
- (A) Van Arkel Method
(B) Mond process
(C) Vapour-phase refining
(D) Zone refining
46. ZnS is not precipitated by passing H_2S through acidified $ZnCl_2$ solution, but CuS is precipitated by passing H_2S through acidified $CuSO_4$ solution. The reason for this is :
- (A) $K_{sp} CuS \gg K_{sp} ZnS$
(B) $K_{sp} CuS = K_{sp} ZnS$
(C) $K_{sp} CuS \ll K_{sp} ZnS$
(D) None of these

SET - D

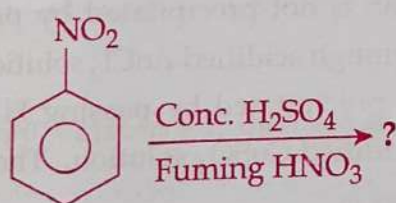
47. The volume of 0.05 N H_2SO_4 solution needed to completely neutralise 25 ml of 0.1 N NaOH solution is :

- (A) 25 ml
- (B) 50 ml
- (C) 100 ml
- (D) 12.5 ml

48. The ore containing two different metals is :

- (A) Haematite
- (B) Galena
- (C) Copper pyrite
- (D) Magnetite

49. What will be the product of the following reaction ?



- (A) m-dinitrobenzene
- (B) o-dinitrobenzene
- (C) p-dinitrobenzene
- (D) Both o- and p-dinitrobenzene

50. The relative lowering in vapour pressure of an ideal solution containing the non-volatile solute is equal to the mole fraction of the solute at a given temperature. This law is known as :

- (A) Henry's law
- (B) Van't Hoff's law
- (C) Raoult's law
- (D) Ostwald's dilution law

51. Among the following covalent compounds, the compound having more polar character is :

- (A) HI
- (B) HCl
- (C) HBr
- (D) HF

52. One drop of water weighs 0.018 g. Number of water molecules present in one drop of water is :

- (A) 1×10^{-3}
- (B) 6.02×10^{20}
- (C) 22.4×10^{-3}
- (D) $6.02 \times 3 \times 10^2$

53. Which of the following shows positive inductive effect ?

- (A) $-\text{NO}_2$
- (B) $-\text{COOH}$
- (C) $-\text{OCH}_3$
- (D) $-\text{CN}$

SET - D

54. The set of quantum numbers for 19th electron of Chromium atom is :

	n	l	m	s
(A)	3	0	0	1/2
(B)	3	2	-2	1/2
(C)	4	0	0	1/2
(D)	4	1	0	1/2

55. When acetylene is passed through dil.H₂SO₄ in presence of HgSO₄ at 60°C, the organic compound formed is :

- (A) Dimethylether
- (B) Acetone
- (C) Acetic acid
- (D) Acetaldehyde

56. The uncertainty in the momentum of an electron is 1×10^{-5} kg m/s. The uncertainty in its position will be ($h = 6.62 \times 10^{-34}$ kg m²/s) :

- (A) 1.05×10^{-28} m
- (B) 1.05×10^{-26} m
- (C) 5.27×10^{-30} m
- (D) 5.27×10^{-28} m

57. In the standardisation of Na₂S₂O₃ using K₂Cr₂O₇ by iodometry, the equivalent mass of K₂Cr₂O₇ is :

- (A) $\frac{\text{Mol.Mass}}{2}$
- (B) $\frac{\text{Mol.Mass}}{3}$
- (C) $\frac{\text{Mol.Mass}}{6}$

(D) Same as molecular mass

58. Which of the following is an electrophile ?

- (A) H₂O
- (B) NH₃
- (C) AlCl₃
- (D) CH₃NH₂

59. According to VSEPR theory the shape of SF₆ molecule is :

- (A) Trigonal bipyramidal
- (B) Regular octahedral
- (C) Pentagonal bipyramidal
- (D) Tetrahedral

60. The correct order of electron gain enthalpy among the following is :

- (A) F > Cl > Br
- (B) Br > Cl > F
- (C) Cl > F > Br
- (D) F > Br > Cl

SET - D

B - SECTION - III
SCIENCE (CBZ)
BOTANY

61. Seedless vascular cryptogams are :
 (A) Monocots
 (B) Ferns
 (C) Liverworts
 (D) Gymnosperms
62. Where can the maximum biodiversity be seen ?
 (A) Tropical Rain Forest
 (B) Temperate Rain Forest
 (C) Alpine Forest
 (D) Mediterranean Forest
63. The maiden-hair tree is :
 (A) Adiantum
 (B) Pinus
 (C) Ginkgo biloba
 (D) Gnetum ula
64. The phylogenetic basis of classification proposed by John Hutchinson was presented in the book :
 (A) Systema nature
 (B) Introduction to the natural orders of plants
 (C) Fundamental botanica
 (D) The families of flowering plants
65. Which is not an element of phloem tissue ?
 (A) Sieve tubes
 (B) Companion cells
 (C) Bast fibres
 (D) Wood parenchyma
66. Sapwood is synonymous with :
 (A) Bark
 (B) Periderm
 (C) Inner layers of secondary xylem
 (D) Outer layers of secondary xylem
67. Indicate the features of a dicot stem :
 (A) Vascular bundles closed, collateral and exarch
 (B) Vascular bundles scattered, more towards the periphery
 (C) Vascular bundles with bundles radial, exarch and closed
 (D) Vascular bundles are conjoint, collateral, open and endarch
68. Which are the products of cyclic photophosphorylation during photosynthesis ?
 (A) $ATP + O_2$
 (B) $NADH + O_2$
 (C) $ATP + NADH$
 (D) $ATP + NADH + O_2$
69. Which organelle does not participate in photorespiration ?
 (A) Peroxisome
 (B) Mitochondria
 (C) Golgi bodies
 (D) Chloroplast
70. The structure of chlorophyll molecule shows a porphyrin head and phytol tail. Porphyrin is a cyclic-tetra pyrrole ring to which phytol tail is attached. To which ring of porphyrin is the phytol tail attached ?
 (A) I
 (B) II
 (C) III
 (D) IV

SET - (D)

71. Micropropagation is :
 (A) Production of plants from Zoospores
 (B) Propagation of microorganisms
 (C) Technique of obtaining new plants by growing cells or tissues in culture medium
 (D) Technique of obtaining small plants
72. To determine homozygosity or heterozygosity, a plant must be crossed with :
 (A) Dominant parent
 (B) Recessive parent
 (C) Homozygous dominant
 (D) Heterozygous dominant
73. Which is unrelated pair ?
 (A) Gibberellins - *Gibberalla fujikuroi*
 (B) Ethylene - Methionine
 (C) Auxin - Indole-3-acetic acid
 (D) Cytokinin - Violaxanthin
74. Which fungus was responsible for the great Irish famine ?
 (A) Leaf spot of rice
 (B) Rust of wheat
 (C) Powdery mildew of peas
 (D) Late blight of potato
75. After fertilization the seed coat of a seed develops from :
 (A) Embryo sac
 (B) Integuments
 (C) Nucellus
 (D) Chalaza
76. Which effect does treatment of gibberellins have on cabbage leaves ?
 (A) Abscission
 (B) Bolting
 (C) Delayed senescence
 (D) Early senescence
77. The phenomenon of single gene contributing to multiple phenotypic traits is called :
 (A) Pleiotropy
 (B) Multiple allelism
 (C) Co-dominance
 (D) Polygenic inheritance
78. Exogenously borne non-motile asexual reproductive units in Ascomycetes are called :
 (A) Conidia
 (B) Ascospore
 (C) Basidiospore
 (D) Zoospores
79. Which disease of wheat is caused by *Ustilago* ?
 (A) Rust
 (B) Leaf spot
 (C) Smut
 (D) Blast
80. The entry of pollen tube through the micropyle is :
 (A) Allogamy
 (B) Geitonogamy
 (C) Porogamy
 (D) Chalazogamy

SET - D

B - SECTION - III
SCIENCE (CBZ)
ZOOLOGY

81. In which type of linkage, chromosomes do not undergo any breakage during gametogenesis and no independent assortment occurs between the pairs of genes ?
- (A) Sex-linkage
(B) Inter-chromosomal linkage
(C) Incomplete linkage
(D) Complete linkage
82. To which class does Protopterus belong ?
- (A) Aves
(B) Reptilia
(C) Amphibia
(D) Pisces
83. In humans the chromosomal composition of zygote destined to form a female is :
- (A) $22 + X$
(B) $22 + Y$
(C) $44 + XX$
(D) $44 + XY$
84. Which stage of mitosis is regarded as the phase of reconstruction and reorganization of nucleus ?
- (A) Prophase
(B) Metaphase
(C) Anaphase
(D) Telophase
85. Where are the t-RNAs transcribed in the eukaryotes ?
- (A) Ribosome
(B) Nucleolus
(C) ER
(D) Golgi body
86. Which type of nutrition is seen in the animals who feed on their own faecal matter ?
- (A) Coprozoic
(B) Mesotrophic
(C) Osmotrophic
(D) Saprozoic

SET - D

87. Which one is not a factor for formation of new species according to modern synthetic theory of evolution ?
- (A) Isolation
(B) Sexual selection
(C) Variation
(D) Natural selection
88. The walls and roof of a greenhouse out-door laboratory is made up of :
- (A) Asbestos
(B) GI sheet
(C) Glass
(D) Green grass
89. The phenomenon of industrial melanism was first observed in :
- (A) USA
(B) United Kingdom
(C) Kenya
(D) Italy
90. Which one was responsible for Bhopal gas tragedy ?
- (A) Methane
(B) Methyl carbide
(C) Methyl isocyanate
(D) Melathion
91. In man, aerobic respiration is completed in :
- (A) Nucleus
(B) Mitochondria
(C) Nucleolus
(D) Dictyosome
92. The pressure build up at the glomerular capillary network is called :
- (A) Intrarenal pressure
(B) Hydrostatic pressure
(C) Osmotic pressure
(D) Interstitial pressure
93. The SA node is located in the :
- (A) Right atrium
(B) Right ventricle
(C) Left atrium
(D) Left ventricle
94. Which of the following statement, is true ?
- (A) All veins carry deoxygenated blood
(B) All arteries carry oxygenated blood
(C) All veins except one carry oxygenated blood
(D) All arteries except one carry oxygenated blood

SET – D

95. Which physiological process does occur inside the cytoplasm of a cell ?
- (A) Krebs Cycle
(B) Electron Transport
(C) Citric acid Cycle
(D) Glycolysis
96. Ammonia is converted to urea through which cycle ?
- (A) Citric acid Cycle
(B) Cardiac Cycle
(C) Ornithine Cycle
(D) Sodium Co-transport
97. Which hormone is called 'love hormone' ?
- (A) Oxytocin
(B) Vasopressin
(C) Testosterone
(D) Melatonin
98. Which one is an inhibitory neurotransmitter ?
- (A) Acetylcholine
(B) Histamine dopamine
(C) Gamma-aminobutyric acid
(D) Glutamate
99. Which one of the following enzymes is present in the acrosome of sperm head ?
- (A) Pepsinogen
(B) Trypsin
(C) Hyaluronidase
(D) Isomerase
100. An abnormal condition in man where the testes fail to descend into scrotum and is retained in the condition called :
- (A) Gubernaculum
(B) Cretinism
(C) Lorain dwarfism
(D) Cryptorchism

SET - D

C - SECTION - IV

CHILD DEVELOPMENT, PEDAGOGY,
SCHOOL MANAGEMENT & EVALUATION

101. Which one of the following assessment practices will bring out the best in students ?
- (A) When students are required to reproduce facts as tested via multiple choice questions.
 - (B) When the emphasis is laid upon positive correlation between test scores and student ability.
 - (C) When the marks obtained and the position secured by the student in the class are the ultimate determinants of success.
 - (D) When conceptual change and students alternative solutions are assessed through several different methods of assessment.
102. Which one of the following situations is illustrative of a child centred classroom ?
- (A) A class in which the teacher dictates and students are asked to memorise the notes.
 - (B) A class in which the textbook is the only resource the teacher refers to.
 - (C) A class in which the behaviour of students is governed by the rewards and punishments the teacher would give them.
 - (D) A class in which the students are sitting in groups and the teacher take turns to go to each group.
103. Score based on statistical comparison of individual's performance with the performance of others in that age group is _____.
- (A) Intelligence Quotient
 - (B) Deviation IQ
 - (C) Fluid Intelligence
 - (D) Crystallized Intelligence
104. Behaviour is the movement of an organism or its parts in a frame of reference provided by the organism itself or by external objects or fields of force. Which theory of learning does it belong to ?
- (A) Stimulus - Response Theory
 - (B) Theory of Systematic Behaviour
 - (C) Theory of Conditional Response
 - (D) Operant Conditioning Theory
105. According to whom, a short answer essay item is one in which the examinee supplies the answer in one or two lines and is usually concerned with one central concept ?
- (A) Marshall & Hales
 - (B) Linn & Miller
 - (C) Gronlund
 - (D) NCF-2005

SET - D

106. A grading system in which teachers base assessment decisions about an individual's work on comparisons with the work of peers is classified as :
- (A) Norm-referenced grading
(B) Criterion-referenced grading
(C) Competitive grading
(D) None of these
107. Which of the following is not the characteristics of formative evaluation ?
- (A) Its design is exploratory and quite flexible
(B) It seeks to identify influential variables
(C) It monitors teaching learning strategy during instructions
(D) It is almost unobstructive and non-reactive
108. To which of Kohlberg's stages, empathy and prosocial behaviours are most closely related ?
- (A) Pre Conventional Ethics
(B) Conventional Ethics
(C) Post Conventional Ethics
(D) None of these
109. In this world of human affairs there is no worse nuisance than a boy at the age of fourteen. If he talks with a childish lisp, he is called a baby; and if he answers in a grown up way, he is called an impertinent whose view was it ?
- (A) Rabindra Nath Tagore
(B) Mahatma Gandhi
(C) Sri Aurobindo
(D) S. Radhakrishnan
110. Condition involving a range of motor or coordination difficulties due to brain damage is known as :
- (A) Epilepsy
(B) Spasticity
(C) Cerebral Palsy
(D) Articulation disorders
111. Which of the following is not a guideline for encouraging creativity ?
- (A) Ask students to support dissenting opinions
(B) Use a class brainstorming session whenever possible
(C) Give ungraded assignments from time to time
(D) Don't reinforce a pattern of telling "Secrets"

SET - D

112. According to Psychoanalytic theory of motivation which of the following is true ?

- (A) Man's behaviour is directed by his will and that the will is motivated by intellectual evaluation.
- (B) Motivation is an element of the highest importance in the process of learning.
- (C) Human behaviour is inspired by the desires lying concealed in the unconscious and subconscious mind of the individual.
- (D) Emphasized that motivation to work is rooted from physiological to self-actualisation needs.

113. School Based Management is a way for forcing individual schools to take responsibility for what happens to the children under their jurisdiction - was the view of _____.

- (A) Malen
- (B) Hausman
- (C) Candoli
- (D) Hallinger

114. In which type of educational management teachers get proper scope for evaluating the assignments entrusted upon them ?

- (A) Creative Management
- (B) Laissez Faire Management
- (C) Decentralised Management
- (D) Democratic Management

115. The prompting method of memory testing is created by :

- (A) H. Munsterburg
- (B) H. Ebbinghaus
- (C) Ephrussi
- (D) Pholman

116. At which phase a child cannot solve a problem alone but can be successful under adult guidance or in collaboration with a more advanced peer ?

- (A) Zone of Proximal Development (ZPD)
- (B) Zone of Actual Development (ZAD)
- (C) Information Processing
- (D) Meta Cognition

117. Continuous and Comprehensive evaluation emphasises :

- (A) How learning can be observed, recorded and improved upon
- (B) Continuous testing on a comprehensive scale to ensure learning
- (C) Fine tuning of tests with the teaching
- (D) Redundancy of the board examination

SET – D

118. Which assessment involves students in the collection and evaluation of materials to be included for examination ?
- (A) Check List
(B) Portfolio
(C) Rating Scale
(D) Rubrics
119. Which part of the brain is involved in higher cognitive process ?
- (A) Cerebellum
(B) Cerebral cortex
(C) Midbrain
(D) Pons
120. Which of the following is not a characteristic of critical pedagogy ?
- (A) To empower students and help them to help themselves
(B) To subjugate students by oppression
(C) To promote emancipation and intellectual growth
(D) To center its practice on community and collaboration
121. "Although approximate chronological ages are attached to the stages, children pass through them at different rates" - whose theory of development helps us to understand this statement ?
- (A) Robert S. Sear
(B) Vygotsky
(C) Piaget
(D) Erikson
122. A child reasons 'you do this for me and I'll do that for you'. In which stage of Kohlberg's moral reasoning would this child fall ?
- (A) The 'good boy-good girl' orientation
(B) The social-contract orientation
(C) The instrumental purpose orientation
(D) The punishment and obedience orientation
123. Ongoing process of arranging information and experience into mental system or categories is known as :
- (A) Assimilation
(B) Accommodation
(C) Organization
(D) Equilibration

SET – D

124. All of the following promote assessment as learning except :
- (A) Telling students to take internal feedback
 - (B) Generating a safe environment for students to take chances
 - (C) Tell students to reflect on the topic taught
 - (D) Testing students as frequently as possible
125. Which one of the following is a good example of learning of a problem solving task till the students able to do it by themselves ?
- (A) Offering a reward for solving the problem quickly
 - (B) Telling them that they can do it by trying again and again
 - (C) Providing a half solved example
 - (D) Telling them they can't go home till they solve the problem
126. The following are the main objectives of International Conference on Educational Planning held at Paris in 1968 except :
- (A) To examine critically the experiences of educational planning over the past ten years.
 - (B) To assess major tendencies and problems with which educational planning is likely to have to deal in the next ten years.
 - (C) To assess co-operative learning groups and difficulties of implementing multiage education.
 - (D) To develop practical guidelines for helping individual nations.
127. There should be more varied modes of assessment beyond the examination hall paper pencil test, was the recommendation of :
- (A) NEP - 2020
 - (B) NCF - 2005
 - (C) NPE - 1986
 - (D) Revised NPE - 1992
128. Who is the founder of critical pedagogy ?
- (A) Paulo Freire
 - (B) Paul Willis
 - (C) Ira Shor
 - (D) Shirley Steinberg
129. Rousseau's theory on adolescence was criticised by the psychologists, because :
- (A) It was not purely philosophic in nature
 - (B) It was not based on observation and experiments
 - (C) He was a devoted parent
 - (D) He did not analyse the self-expression of children
130. Which of the following is a guideline for the teachers to deal with the learning disabled students ?
- (A) Breaking assignments into very small steps
 - (B) Make sure students are being reinforced for their successes
 - (C) Work on the learning problem directly
 - (D) All of the above

SET – D

131. A scale with a set of points which describe varying degrees of the dimension of an attribute under observation is known as :
- (A) Aptitude scale
(B) Rating scale
(C) Attitude scale
(D) Questionnaire & schedules
132. According to Piaget, the ability to infer a relationship between two objects based on knowledge of their relationship with a third object, develop at which stage ?
- (A) Sensori motor
(B) Pre-Operational
(C) Concrete Operational .
(D) Formal Operational
133. Which of the following does not contain School Development Plan estimates ?
- (A) Physical requirement of additional infrastructure and equipments over the three year period.
(B) Classwise enrolment for three years.
(C) Training requirement of teachers.
(D) Free textbooks and additional costs as per the specifications in schedule.
134. Whose name is strongly associated with the apparatus of puzzle box ?
- (A) Skinner
(B) Pavlov
(C) Thorndike
(D) Tolman
135. NCTE as a statutory body came into existence in pursuance of the NCTE Act-1993 on the _____.
- (A) 17th August 1993
(B) 17th August 1995
(C) 5th September 1995
(D) 10th December 1994
136. The essay test possesses relatively low validity and reliability because of the following factors except :
- (A) It can be assessed only by a teacher or competent professionals
(B) It may not provide a true picture of the comprehension level of the learner
(C) The learners focus on learning broad concepts and articulating relationship
(D) Good verbal ability even in the absence of relevant points
137. Assessment for learning takes into account the followings except :
- (A) Qualitative improvement in learning
(B) Learning styles of students
(C) Develops personal social skills
(D) Mistakes and strengths of students

SET - D

138. Who has suggested that people are motivated by a hierarchy of needs, beginning with basic psychological requirements and moving upto the need for self-fulfillment ?
- (A) J. Atkinson
(B) Kelly
(C) Maslow
(D) B. Weiner
139. Characterization by value, which is one of the objective of Bloom's taxonomy, comes within which domain ?
- (A) Cognitive
(B) Affective
(C) Psychomotor
(D) None of these
140. Which of the following is a physical/ material resource for education ?
- (A) Intellectual properties
(B) Sponsorships
(C) Alumni
(D) Endowments
141. In MCQ item, the problem part is called as :
- (A) Direction
(B) Foils
(C) Stem
(D) Distractor
142. Which of the following is the main objective of continuous assessment ?
- (A) To find out the extent to which the objectives have been achieved
(B) To discover how far the learning experiences in the classroom have proved effectively
(C) To learn how successfully the aims of education have been fulfilled
(D) To help the learners to understand their progress in learning
143. What do you mean by Rule-Eg method ?
- (A) Teaching or learning by moving from specific examples to general rules.
(B) Teaching or learning by moving from general principles to specific examples.
(C) Making imaginative leaps to correct perceptions.
(D) Teachers present material in complete, organised form, moving from broadest to more specific concepts.
144. Role of teachers for the development of critical pedagogy is/are :
- (A) Collaborative and co-operative learning
(B) Promote good citizen quality for future society
(C) Development of capabilities of learners
(D) All of the above

SET - D

145. "Motivation is the stimulation of actions towards a particular objective where previously there was little or no attraction to that goal". This definition was given by :

- (A) W.A. Kelly
- (B) T.W. Atkinson
- (C) F.G. McDonald
- (D) H.W. Bernard

146. Organising pre-service and in-service training of teachers; develop and disseminate innovative educational techniques and practices are the objectives of which organisation ?

- (A) NCTE
- (B) NCERT
- (C) Central Advisory Board of Education
- (D) NIEPA

147. Which of the following is not a characteristic of Blue Print ?

- (A) Weightage are given to objectives and contents
- (B) Weightage to form of questions in terms of marks
- (C) A two dimensional chart
- (D) It produces a link between test items and paper setters policy decisions

148. Which of the following is a benefit of peer assessment ?

- (A) It can assist in deepening the student's own perception.
- (B) It helps narrowing the gap between one's imagined view of teaching and what actually occurs.
- (C) It helps students towards understanding the observation process.
- (D) It makes a student to become more independent learner.

149. Which of the following is not a guideline for the teachers to develop problem solving qualities of learners ?

- (A) Ask the students if they are sure they understand the problem
- (B) Encourage attempts to see the problem from different angles
- (C) Pose a question and let students try to find the answer
- (D) Teach heuristics

150. According to McDougall's view Negative self-feeling is associated with which of the following instincts ?

- (A) Submission
- (B) Acquisition
- (C) Self assertion
- (D) Repulsion

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