MRCPsych Paper B: 600 MCQs and EMIs

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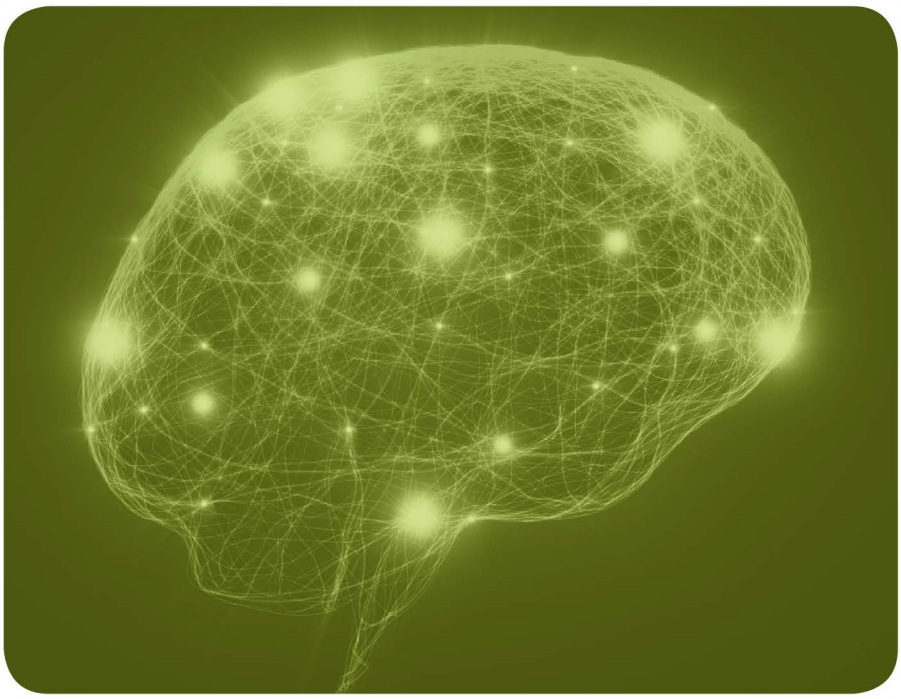

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Chapter 3

Mock Exam: 3

Questions: MCQs

For each question, select one answer option

1. A new meaning cannot be understood as arriving from the patient's affective state or previous attitudes. Which of the following refers to the attribution of a new meaning, usually in the sense of self-reference to a normally perceived object?

A Delusional misinterpretation
B Delusional memory
C Delusional mood
D Delusional perception
E Delusional work

2. Which of the following is correct practice for ECT, according to the Electroconvulsive Therapy Accreditation Service (ECTAS)?

A Oxygen is administered before ECT
B Patients can go to the ward directly after ECT
C The referring psychiatrist can prescribe four or more sessions at a time
D There can be up to three ECT sessions routinely provided to patients
E Seizure induced can be complex partial or generalised tonic clonic

3. Which of the following is the most appropriate indication for a cohort study?

A Multiple exposures
B Rare exposures
C Single outcome
D Studying complex issues
E Suitable for a rare disease

4. A 19-year-old man heard babies crying whenever he saw traffic lights changing and was thus convinced that the babies were being harmed by them. Which of the following best describes this phenomenon?

A Autoscopy
B Extracampine hallucination
C Functional hallucination
D Reflex hallucination
E Secondary hallucination

5. A research method involves plotting the first few digits of numerical observations along a vertical axis and then adding numbers to a single group or two groups to represent individual values of observation. What is the name of this research method?

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A Box-and-whisker plot
B Dot plot
C Histogram
D Scatter plots
E Stem-and-leaf plot

6. Who wrote the book *Myth of Mental Illness?*

A Erving Goffman
B Michel Foucault
C RD Laing
D Sigmund Freud
E Thomas Szaz

7. Which of the following economic analyses would you use to compare two preventive treatments for dementia?

A Cost–benefit analysis
B Cost-effectiveness analysis
C Cost-minimisation analysis
D Cost–utility analysis
E Fiscal impact analysis

8. Which of the following statements about the pharmacological treatment of sex offenders is correct?

A Cyproterone acetate causes side effects similar to those of surgical castration.
B Cyproterone acetate is a gonadotrophin-releasing hormone agonist.
C The side effects of medroxyprogesterone acetate are irreversible.
D The selective serotonin reuptake inhibitors (SSRIs) are not as well tolerated as hormonal treatments.
E It should be used in place of psychotherapy in high-risk offenders.

9. Which of the following statements about the availability of ECT policies and protocol is correct, according to the Electroconvulsive Therapy Accreditation Service (ECTAS)?

A There is no requirement for a maintenance treatment protocol as it is not encouraged
B There is no separate requirement for a protocol for treatment of young people under 18 years
C Policies relating to ECT must be checked once every 3 years
D Protocol for neuroleptic malignant syndrome should be available
E Protocol for storing Dantrolene should be available

10. In a study, sensitivity is 92% and specificity 94%. What is the likelihood ratio of a positive test result?

A 0.47
B 1.06
C 1.86
D 11.75
E 15.33

11. A 81-year-old man was admitted after a stroke. The neurologist suspected that he was depressed. Which of the following symptoms suggests depression in the presence of a stroke?

A Anorexia
B Feeling punished
C Lethargy

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D Psychomotor retardation
E Weight loss

12. A 56-year-old man was admitted after a myocardial infarction. He was diagnosed with depression. Which of the following antidepressants is likely to be the first choice?

A Agomelatine
B Dothiepin
C Lithium
D Sertraline
E Venlafaxine

Use the following information to answer questions 13–16

A new screening test was used to diagnose schizophrenia in 90 psychotic patients. The data in **Table 3.1** were observed.

Table 3.1 Screening test for schizophrenia

Screening test	Gold standard	
	Schizophrenia positive	Schizophrenia negative
Positive test	80 (*a*)	10 (*b*)
Negative test	20 (*c*)	70 (*d*)

13. What is the positive predictive value?

A 0.11
B 0.22
C 0.28
D 0.77
E 0.88

14. What is the negative predictive value?

A 0.55
B 0.66
C 0.77
D 0.88
E 0.99

15. What is the likelihood ratio for a positive test (LR+)?

A 4.15
B 5.15
C 6.15
D 7.15
E 8.15

16. What is the likelihood ratio for a negative test (LR–)?

A 0.11
B 0.22
C 0.77
D 0.88
E 6.15

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For each question, select one answer option

17. A 32-year-old man with HIV infection was worried about the brain complications of his condition. What is the most common CNS complication of HIV disease (AIDS)?

A Cerebral vasculitis
B HIV encephalitis
C HIV leukoencephalopathy
D HIV-associated dementia
E Primary non-Hodgkin's malignant lymphoma of CNS

18. In which of the following personality disorders is the self-serving attributional bias exaggerated?

A Anankastic personality disorder
B Anxious (avoidant) personality disorder
C Emotionally unstable personality disorder
D Paranoid personality disorder
E Schizoid personality disorder

19. What was the outcome of the CUtLASS study and its subsequent economic analysis?

A Atypical antipsychotics were less than 50% likely to be cost-effective.
B Atypical antipsychotics were associated with quality of life.
C Conventional antipsychotics had a higher cost.
D Conventional antipsychotics had lower quality-adjusted life years (QALYs).
E The primary outcome measure was quality of life.

20. A 40-year-old man started to follow and attempted to contact his ex-girlfriend repeatedly in such an intrusive manner that she felt scared and was frightened to go out on her own. Which of the following statements about the victims of stalking by someone who was previously known is correct?

A Victims are usually stalked for shorter periods of time.
B Victims are at a less risk of physical violence.
C Victims are unlikely to suffer from major distress.
D Victims are less likely to feel guilt.
E Victims are often not believed by others.

21. What is the probable risk of agranulocytosis with clozapine treatment in the UK?

A <1:1000
B <1:2000
C <1:3000
D <1:4000
E <1:5000

22. Which of the following relates to falsification of memory occurring in clear consciousness in association with organic pathology?

A Confabulation
B False memory
C Pseudologica fantastica
D Retrospective falsification
E *Vorbeireden*

23. What is the approximate risk of fatal pulmonary embolism with clozapine treatment?

A 1:2000
B 1:2500

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C 1:3000
D 1:4000
E 1:4500

Use Table 3.2 to answer questions 25–32

Table 3.2 A 2 × 2 table for questions 25–32

Depression identified by two-item screening questionnaire	ICD-10 diagnosis of depression		Total
	Yes	No	
Yes	45	50	95
No	5	85	90
Total	50	135	185

25. What is the sensitivity of a two-item screening questionnaire using both items?

A 60%
B 70%
C 80%
D 90%
E 100%

26. What is the specificity of the two-item screening questionnaire?

A 53%
B 63%
C 75%
D 85%
E 95%

27. What is the predictive power of a positive test using a two-item screening questionnaire?

A 37%
B 47%
C 57%
D 67%
E 77%

28. What is the predictive power of a negative test using a two-item screening questionnaire?

A 55%
B 64%
C 74%
D 85%
E 94%

29. What is the likelihood ratio of a negative test (LR–) for the two-item screening questionnaire?

A 0.6
B 0.16
C 0.26
D 0.36
E 0.46

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30. What is the pre-test probability of a two-item screening questionnaire?

A 7%
B 17%
C 27%
D 37%
E 47%

31. What is the false-positive rate for the two-item screening questionnaire?

A 17%
B 27%
C 37%
D 47%
E 57%

32. What is the false-negative rate for a two-item screening questionnaire?

A 5%
B 10%
C 15%
D 20%
E 25%

For each question, select one answer option.

33. A 31-year-old man was recently diagnosed with human immunodeficiency virus (HIV) infection. He would like to learn more about his condition. Which of the following statements about the HIV is correct?

A The AIDS–dementia complex or HIV-associated dementia is secondary to opportunistic infections of the central nervous system.
B Bacterial infections are common.
C The most common CNS neoplasm is secondary non-Hodgkin's malignant lymphoma, occurring in around 2–6% of patients.
D The nervous system is a late target in HIV infection.
E Progressive encephalopathy in children is due to primary HIV infection of the CNS.

34. Which of the following statements about pathological laughing and crying (PLC) is correct?

A PLC is not associated with more depressive, anxious and aggressive behaviours compared with people do not have PLC.
B PLC is an essential part of the pseudo-bulbar palsy syndrome.
C PLC is usually triggered by a stimulus that would normally trigger the response of laughter or crying.
D The prevalence of PLC is approximately 40–50% among patients who have had a stroke.
E Tricyclic antidepressants are the first-line treatment.

35. A study was conducted in the general population using a two-item screening questionnaire for depression. A sample of 1500 participants was randomly chosen. It was estimated that the prevalence of depression (ICD-10 categories) was 15%. What is the PPV of this two-item screening questionnaire in the general population?

A 5%
B 10%
C 15%
D 20%
E 25%

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36. You have met a pharmaceutical representative to discuss a new, recently licensed drug for treatment-resistant schizophrenia. The data showed that the drug prevented annual hospitalisation in 30% more patients than placebo in the RCTs. You wanted to know how many patients you needed to treat (NNT) to prevent hospitalisation. Which of the following is the correct answer?

A 3
B 4
C 5
D 6
E 7

37. Which of the following statements about magic mushrooms is correct?

A About two to three magic mushrooms are typically used at a time to achieve the effects.
B Their abuse is strongly associated with personality disorders.
C Management of complications is by benzodiazepines.
D They are addictive.
E Urine testing can detect the psilocybin constituent of mushrooms.

38. Which one of the following is an adverse effect of phototherapy?

A Burning sensation in eyes
B Double vision
C Headaches
D Skin irritation
E Skin rashes

39. A 19-year-old man with mild learning disability attended your clinic for a review. His care coordinator who attended with him enquired about the association between epilepsy and learning disability. Which of the following statements about learning disability and epilepsy is correct?

A Epilepsy can cause a decline in intellectual functioning.
B Learning disability occurs in <10% of people with epilepsy.
C Specific causes of epilepsy and learning disability can be identified in most cases.
D The presence of epilepsy in the learning-disabled population is approximately 10%.
E The prevalence of epilepsy is lower in the more severely disabled than the mildly disabled individuals.

40. A new rating evaluated for major depression had a sensitivity of 90% and a specificity of 90% against the DSM-IV diagnosis. What is the likelihood ratio of a positive result?

A 3
B 5
C 7
D 9
E 11

41. The prevalence of anxiety in patients diagnosed with mild cognitive impairment was 20%. An anxiety rating scale with an LR+ of 20 was administered to a patient with mild cognitive impairment. What is the probability that this patient was anxious?

A 53%
B 63%
C 73%
D 83%
E 93%

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42. A new antidepressant drug was recently licensed. The published data indicated that, in the RCTs, there were two study groups: one using active drug and one using a placebo. Each group consisted of 200 patients. Over a 6-week study period, a 50% drop in the Montgomery–Asberg Depression Rating Scale (MADRS) scores was observed in 80 patients receiving the active drug. However, a similar drop was observed in only 40 patients in the placebo group. What is the NNT from this study for the new antidepressant drug?

A 3
B 4
C 5
D 6
E 7

43. Which one of the following conditions is an absolute contraindication for psychosurgery?

A Agoraphobia
B Alzheimer's disease
C Bipolar affective disorder
D Persistent delusional disorder
E Schizophrenia

44. Which of the following statements about morbid jealousy is correct?

A It is associated with high self-esteem.
B It is found in ICD-10 as a diagnostic classification.
C It is otherwise known as De Clerambault's syndrome.
D It may take different psychopathological forms.
E It requires that proof of the spouse being faithful is a valid symptom.

45. What should researchers do if there is no information available about the distribution of the data?

A Assume normality and use parametric tests
B Assume non-normality and use non-parametric tests
C Try to modify the data to normal distribution
D It doesn't matter because they can use the appropriate test to suit their hypothesis
E Expect to provide information as to why no information was available

46. In a sample of 100 people, a test identifies that 91 of them have an illness. Which of the following statements is correct?

A The test has a high sensitivity.
B The test has a high specificity.
C The test has a high positive predictive value.
D The test has a high negative predictive value.
E The test has high validity.

47. Which of the following statements about the odds ratio is correct?

A The odds ratio is also called the cross-product ratio.
B An odds ratio of 1 means that there is a 100% of chance of developing a condition.
C It is reported in cohort studies.
D It is used to calculate the likelihood of developing a condition.
E In rare conditions, the odds ratio is more than the risk ratio.

48. A 59-year-man with a 20-year history of bipolar affective disorder attended your outpatient clinic for a review. He would like to discuss the prognosis of his condition. He had heard about rapid cycling mood disorder. Which of the following statements about this disorder is correct?

A It has an inherited pattern.
B It is usually seen in bipolar II disorder.

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C It is more frequent in males.
D It is the occurrence of at least three episodes in a year.
E It occurs in both depression and bipolar disorders.

49. A 14- year-old girl was admitted to the inpatient unit with depressive stupor. She was treated with medication and psychosocial interventions. In the discharge planning meeting, her care coordinator discussed her rights with her. She wanted to discuss 'advanced decision'. Which of the following statements about the legal term 'advanced decision' is true?

A A patient can choose to receive a particular treatment under advanced decision
B Advance decisions cannot be changed once made
C Advance decisions come into force once they are made by the patient
D Appropriate treatment may be administered by the responsible clinician even if an advance decision has been made refusing treatment
E She can make an advance decision if she has the capacity to understand her illness as well as the treatment process

50. When is the Mantel–Haenszel procedure used?

A To calculate the power of the study
B To calculate the statistical significance of the study
C To combine the studies in a meta-analysis and produce a net effect
D To correct for multiple testing
E To test for normality of the data

51. In a research study, only the participants did not know which treatment they were receiving. What is this known as?

A Cross-over
B Double blind
C Factorial design
D Placebo control
E Single blind

52. Which of the following statements about the STEP-BD trial is correct?

A All the patients included were not on any baseline mood stabilisers.
B Antidepressants have been shown to be efficacious in the management of acute bipolar depression.
C Antidepressants were better than placebo at achieving the therapeutic response.
D A switch to mania was equal for antidepressants and placebo.
E The two antidepressants used in the STEP-BD trial were citalopram and fluoxetine.

53. Which of the following statements about costs is correct?

A An opportunity cost is defined as the cost of a decision in terms of the next best alternative; it occurs because human beings have endless needs and require resources to satisfy these needs.
B Costs describe the total expenditure in the pursuance of starting the treatment programme.
C In the health-provision context, the direct cost of the treatment programme would include all identifiable equipment costs, along with other costs such as project planning, building and premises, staff salaries, equipment administration and so on.
D Intangible costs in the health-provision context would include patient-borne costs such as absence from work and other duties during the treatment period, loss of earnings and losses due to treatment side effects.
E Intangible costs in the health-provision context would be the value of other things, which are resources used by a treatment programme, that would have been spent in other ways such as other treatment programmes.

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54. Which of the following statements about concepts and disorders related to physical complaints is correct?

A Accident neurosis is synonymous with post-traumatic neurosis.
B Factitious disorder is characterised by physical or psychological symptoms that are feigned for gain.
C Patients with hospital addiction syndrome tend to become aggressive and may use sexual elements.
D Psychological symptoms are produced intentionally in others in patients with Munchausen's syndrome by proxy.
E A sick role is synonymous with Munchausen's syndrome.

55. Which of the following statements about 'risk' as an epidemiological measure is correct?

A It is the incidence density.
B It is measured in units of case/person time.
C It is the percentage of population with time.
D It is the cumulative incidence.
E It is the rapidity of disease occurrence.

56. Which of the following statements about randomised controlled trials (RCTs) is correct?

A They are a study design of choice for prognosis of a disease.
B They are conducted when a previous meta-analysis already has a definite result.
C They are conducted when a prohibitively high study sample is needed to prove a statistical difference.
D They are designed to look at the validation of a screening or diagnostic test.
E They include prospective designs.

57. Which of the following is used to determine whether, and to what extent, age, alcohol, smoking and fat intake affect a person's blood sugar levels?

A Multiple analysis of variance
B Multiple regression using the least-square method
C Product–moment correlation coefficient
D Regression using the least-square method
E Spearman's rank correlation coefficient

58. Which of the following is an appropriate test to compare the heights of boys and girls?

A McNemar's test
B One-sample (paired) Student's *t*-test (Wilcoxon's matched-pairs test)
C Two-sample (unpaired) Student's *t*-test (Mann–Whitney U-test)
D Two-way analysis of variance (by ranks)
E χ^2 test

59. Which of the following should be used to determine whether the blood glucose level increases at 30, 60, 90 and 120 min after taking a meal, and whether the increase is different in males and females?

A Analysis of variance
B Mann–Whitney U-test
C Multiple regression analysis
D Spearman's rank correlational coefficient
E Two-way analysis of variance (by ranks)

60. What is Kaplan–Meier survival analysis?

A Comparing various survival indices between two paired groups
B Comparing various survival indices among three matched groups

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C Comparing various survival indices among three unmatched groups
D Comparing various survival indices between two unpaired (independent) groups
E Looking at various survival indices in one group over the study period

61. Which of the following is used to calculate QALYs?

A Cost–benefit analysis
B Cost-effective analysis
C Cost-minimisation analysis
D Cost–utility analysis
E Multi-way sensitivity analysis

62. Which of the following introduces the highest probability of bias?

A Drop-out events
B Last observation carried forward
C Missing data analysis
D Per-protocol analysis
E Sensitivity analysis (the worst-case or best-case scenario)

63. Which of the following measures an internal consistency of a test?

A Cronbach's α
B Intraclass correlation coefficient
C Intrarater reliability
D κ (Cohen's) statistics
E Split-half reliability

64. Which of the following 'endpoints' overcomes the problem of insufficient power in studies?

A Clinical endpoint
B Composite endpoint
C Humane endpoint
D Lacunar endpoint
E Surrogate endpoint

65. Which of the following can help to reduce type 1 error (i.e. a false-positive result) in a study?

A Adjusting the level of the β value in that study
B Eliminating confounders
C Reducing the heterogeneity in a study sample
D Reducing the sample size
E Reducing the variance

66. The statistical tests of heterogeneity used in a meta-analysis have a limited statistical power. What are these tests prone to?

A They reduce the confidence interval and thus the strength of the study
B They show false-positive conclusions with regard to heterogeneity in a meta-analysis
C Type 1 error
D Type 2 error
E Type α error

67. What is a test used to check group differences in the means of two independent groups?

A χ^2 test
B Mann–Whitney test
C McNemar's test
D Two-sample Student's *t*-test
E Wilcoxon's rank test

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68. A 32-year-old man diagnosed with HIV infection was concerned about complications of his condition. Which of the following statements about opportunistic infections in HIV is correct?

A Bacterial invasions are most common.
B The most common fungal infection is coccidioidomycosis.
C Cytomegalovirus infection causes haemorrhagic encephalitis.
D They occur in about 50% of the patients with HIV.
E Toxoplasmosis usually presents with focal neurological signs.

69. What is the name of a study in which neither the investigators nor the participants knew what treatment the latter were taking?

A Cross-over study
B Double-blind study
C Factorial design study
D Placebo-control study
E Single-blind study

70. According to current evidence, how many patients live independently after first-episode schizophrenia?

A 10%
B 15%
C 20%
D 25%
E 30%

71. According to ICD-10, what minimum duration of non-organic insomnia meets the diagnostic criteria?

A 2 weeks
B I month
C 3 months
D 6 months
E 12 months

72. What is the ability to detect true differences between groups known as?

A α
B β
C Effect size
D Power
E Probability

73. Combined depression and personality disorders are likely to be associated with poor outcome for depression. What is the likely association according to current evidence?

A 1-fold
B 1.5-fold
C 2-fold
D 2.5-fold
E 3-fold

74. A 37-year-old woman was recently diagnosed with obsessive–compulsive disorder (OCD). She is planning to have a family and wanted to know about the risk of OCD in her offspring. Which of the following is a risk factor for developing OCD?

A Being a girl
B Being married
C Depression

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