

**** THIS IS YOUR ANSWER SHEET ****

YOU WILL NEED TO TURN IN BOTH YOUR EXAM *PLUS* THIS SHEET.
HOWEVER, ALL ANSWERS SHOULD APPEAR ON THIS ANSWER SHEET.

Given: $R = 8.314 \text{ J/mol-K} = 8.314 \times 10^7 \text{ g-cm}^2/(\text{sec}^2\text{-mol-K})$; $\text{RCF} = (1.119 \times 10^{-5})(\text{rpm})^2(r)$;
 $\rho_{\text{water}} = 1.00 \text{ g/cm}^3$; $\eta = 0.010 \text{ g/(cm-sec)}$; $s = M(1 - v^2\rho)/N^2f$; $D = kT/f$;
 $(1/c_r)(dc_r/dr) = M\omega^2r(1 - v^2\rho)/RT$; $c = 3.0 \times 10^8 \text{ m/s}$; $h = 6.63 \times 10^{-34} \text{ J-sec}$;
 $k = 1.38 \times 10^{-23} \text{ J/K}$; $\theta = [S]/(Kd + [S])$; $v = n - vKd/[S]$; $E = (\gamma h m H)/2\pi$;
 $n\lambda = 2d\sin\theta$; γ for $^1\text{H} = 26.7 \times 10^7 \text{ rad/sec-T}$; $A = A_0 \exp(-kt)$; $k = \ln(2)/\tau_{1/2}$
 $\text{Eff.} = 1 / (1 + (R/R_0)^6)$; $KC/R_0 = 1/(M^*P(\theta)) + 2 A_2C$; $N^0 = 6.02 \times 10^{23}$

Note: Questions 1-40 (2 pts each); 41-53 (4 pts each); 54-61 (1 pt each)

1	A B C D E ① ② ③ ④ ⑤	11	A B C D E ① ② ③ ④ ⑤	21	A B C D E ① ② ③ ④ ⑤	31	A B C D E ① ② ③ ④ ⑤
2	A B C D E ① ② ③ ④ ⑤	12	A B C D E ① ② ③ ④ ⑤	22	A B C D E ① ② ③ ④ ⑤	32	A B C D E ① ② ③ ④ ⑤
3	A B C D E ① ② ③ ④ ⑤	13	A B C D E ① ② ③ ④ ⑤	23	A B C D E ① ② ③ ④ ⑤	33	A B C D E ① ② ③ ④ ⑤
4	A B C D E ① ② ③ ④ ⑤	14	A B C D E ① ② ③ ④ ⑤	24	A B C D E ① ② ③ ④ ⑤	34	A B C D E ① ② ③ ④ ⑤
5	A B C D E ① ② ③ ④ ⑤	15	A B C D E ① ② ③ ④ ⑤	25	A B C D E ① ② ③ ④ ⑤	35	A B C D E ① ② ③ ④ ⑤
6	A B C D E ① ② ③ ④ ⑤	16	A B C D E ① ② ③ ④ ⑤	26	A B C D E ① ② ③ ④ ⑤	36	A B C D E ① ② ③ ④ ⑤
7	A B C D E ① ② ③ ④ ⑤	17	A B C D E ① ② ③ ④ ⑤	27	A B C D E ① ② ③ ④ ⑤	37	A B C D E ① ② ③ ④ ⑤
8	A B C D E ① ② ③ ④ ⑤	18	A B C D E ① ② ③ ④ ⑤	28	A B C D E ① ② ③ ④ ⑤	38	A B C D E ① ② ③ ④ ⑤
9	A B C D E ① ② ③ ④ ⑤	19	A B C D E ① ② ③ ④ ⑤	29	A B C D E ① ② ③ ④ ⑤	39	A B C D E ① ② ③ ④ ⑤
10	A B C D E ① ② ③ ④ ⑤	20	A B C D E ① ② ③ ④ ⑤	30	A B C D E ① ② ③ ④ ⑤	40	A B C D E ① ② ③ ④ ⑤

41. _____	49. _____	56. _____
42. _____	50. _____	57. _____
43. _____	51. _____	55. _____
44. _____	52. _____	56. _____
45. _____	53. _____	57. _____
46. _____	54. _____	60. _____
48. _____	55. _____	61. _____

FINAL EX TOTAL = _____ COURSE TOTAL PTS = _____ CH370 GRADE _____

Your answer sheet and course grade should be ready for pickup by 3:00 pm, Monday, Dec. 12th at the office. Electronic posting of Grades should be available about the same time.